

STRUCTApanel H2



12mm Non-Structural Panelling



Installation Guide

WALL PANELLING

Internal Wall Panelling p. 2

Tongue & Groove VJ150 p. 4

HOARDING

Temporary Hoarding Panelling p. 14

FLOORING UNDERLAY

Timber Flooring Underlay p. 15

WALL PANELLING

Internal Wall Panelling

Fixing to timber, steel and masonry walls

Considerations

- All walls should be straight and true for best results
- Stud spacing of 600mm centres maximum
- Min. 9mm gap should be left at bottom between floor and STRUCTApanel H2 12mm bottom edge
- Min. 9mm gap should be left at the top between the ceiling and STRUCTApanel H2 12mm top edge
- Min. 5mm gap should be left when butting up against another wall
- Sheets can be joined off studs, additional battens at 600mm centres will be required to support the join
- Sheets joined on studs will give best results
- Allow min. 1.5mm expansion joint between panel joins
- STRUCTApanel H2 12mm should be allowed to acclimatise in the room for 48 hours prior to installation, with evenly aligned bearers to prevent sag under pack and air able to circulate freely, product is not designed for external applications and should be kept dry at all times.

Tools Required

- PPE - dust mask and eye protection
- Level
- Pencil
- Tape measure
- Caulking gun (for adhesive)
- 40mm nail fixings
- String line
- Paintable gap sealer
- Flexible adhesive

Fixings

- When using a nail gun, 40mm finishing brad nails are recommended

- If fixing by hand, 40mm bullet head nails or 40mm screws are recommended
- Allow 30mm for nail/screw to fix into the substrate
- Use of flexible construction adhesive required to fix sheets to studs and noggins

Installation

- Before you install the first panel ensure:
 - Studs are max. 600mm apart (see stud and noggin layout)
 - Frames are straight and true
- Start at one end or corner measure, then cut the first panel to be installed
- Apply flexible construction adhesive to studs and noggins behind the first panel to be installed (adhesive applied at 500mm centres across studs and noggins) or a continuous 5mm bead of adhesive to studs and noggins (approx. 1x300g tube per sheet)
- Using a 9mm spacer along the floor under the bottom edge of the first panel, rest bottom edge on the spacer, then press the STRUCTApanel H2 12mm against the wall
- Check the first panel is straight and level, then fix into place with nails at 450mm spacings across studs and noggins
- Remove the spacer and set in place for the second panel to be installed
- Repeat the above process for the remaining panels, remembering to leave min. 1.5mm expansion gap between adjoining panels
- Use a paintable and flexible gap sealer between sheet joins to ensure a neat finish between boards
- Measure and cut the last panel to fit neatly in the remaining space
- Skirting, architraves and cornice material can then be fitted to cover the gaps at both floor and ceiling level and on edges

NOTE

- If using STRUCTApanel H2 12mm to dado rail height, ensure a continuous line of noggins are used to support the top of the panel and allow correct fixing of the top of the sheet
- If fixing to a masonry wall, install battens at max 600mm centres horizontally (see Figure 2) and then fix as per the above fixing instructions (back of panels must be primed to reduce moisture uptake)

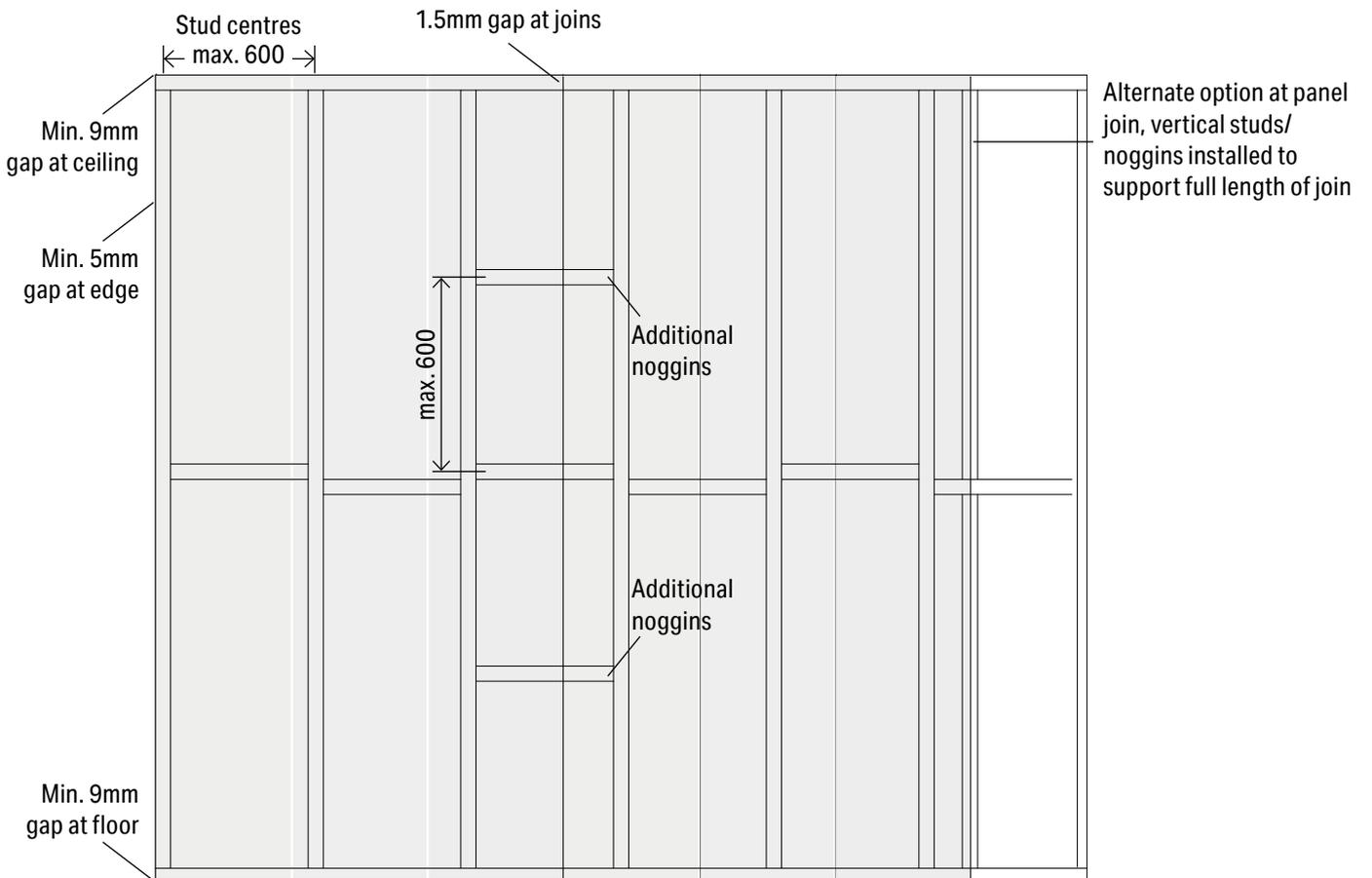
Masonry Wall Installation

Figure 1



Stud Wall Installation

Figure 2



WALL PANELLING

Tongue & Groove VJ150

Fixing to timber, steel, plasterboard, masonry walls, ceilings and over other existing linings

Considerations

- All walls and ceilings should be straight and true for best results.
- Sheets joined on wall studs will give the best results.
- Wall stud spacing of 600mm centres maximum.
- Ceiling truss should have a spacing of 700mm centres max. with battens attached at max. 450mm spacings.
- Panels can be joined off the studs, but these joints must be supported by additional noggins at 700mm maximum spacings.
- Wall panels should NOT be butt joined to other panels including ceiling panels. Manufacturing variations can result in the grooves not lining up and expansion can cause the butt joint to lift. Adhere to expansion gap guidelines and conceal joints with trim, such as a dressed batten or cornice. **Refer to Figure 9.**
- The product should be allowed to acclimatise in the room for 48 hours prior to installation, with evenly aligned bearers to prevent sag under-pack and enable air to circulate freely.
- Never store material outdoors or in an open area (veranda), or areas with newly poured concrete or in rooms that have been recently plastered.
- The product is not designed for external or wet area applications and should be kept dry at all times.
- All wood products are hygroscopic, which means they have the ability to absorb and release moisture, causing expansion and contraction. Therefore, it's crucial to ensure that the framing, wall and ceiling cavities, and the existing wall linings where VJ150 is being installed have the appropriate moisture content.

Tools Required

- P1 or P2 Dust Mask & Safety Glasses
- Hammer / Nail Gun or Screw Gun
- Planer
- Pencil
- String line
- Caulking Cartridge Gun or Spatula
- Hand saw / Power saw
- Spirit Level
- Tape measure
- Spacers

Fixings

- **The supplier of the fixings should confirm their suitability for installation before use.**
- **When fixing into steel, screws should be used.**
- Fixings should be long enough to **penetrate at least 25 - 30mm** into the timber frame.
- Fixings should be spaced 200 – 300mm across top, bottom plates, noggins, battens, furring channels and down studs with a min. 10mm distance to the edges of the panel.
- **Nails**
 - Hammer – 2mm bullet head
 - Nail gun – 14g brad
- **Screws**
 - Into timber – 8g
 - Into steel - 8g needle point self head imbedding CSK / PH2

Adhesives, Sealants and Gap Fillers

- **The supplier of adhesives, sealants, and gap fillers should confirm their suitability for installation before use.**
- **Use a flexible sealant or gap filler** that can be painted and has a 25% expansion capacity for sealing joints and filling gaps between sheets, corners, and for adhering to trims like mouldings, cornices, skirtings, architraves, and dado rails.

- **Apply generous amounts of construction adhesive** with a 25% expansion capability to attach the panel to studs, noggins, top and bottom plates placed approximately 300mm apart. When adhering to plasterboard or other wall linings, create a bead around the perimeter and a zigzag pattern down the wall.
- When installing onto battens or furring channels it is recommended to use a continuous bead in a zig zag pattern.

Expansion Gap Allowances

For walls allow:

- 5 mm at wall to ceiling interface and 10mm at wall to floor interface.
- 1mm between tongue and grooved joins, **DO NOT** hard knock panels together.
- 3mm in the corners and wall intersections.
- 5mm at bottom of panel if placed on top of a skirting.
- 5mm between sheets if placed end to end with both ends supported by the stud, noggin, batten or furring channel. **Refer to Figure 9.**

For ceilings allow:

- 5mm around perimeter of ceiling.
- 1mm between tongue and grooved joins, **DO NOT** hard knock panels together.
- 5mm between sheets if placed end to end with both ends supported by the truss, batten, or furring channel. **Refer to Figure 9.**

Moisture content of wall, ceiling and existing wall linings onto which a panel is being installed

- All wood products are hygroscopic, which means they have the ability to absorb and release moisture, causing expansion and contraction. Therefore, it's crucial to ensure that the framing, wall and ceiling cavities, and the existing wall linings where VJ150 is being installed have the appropriate moisture content.
- Excessive moisture can lead to the development of mould. Employing moisture vapor barrier linings and implementing proper ventilation are commonly employed construction methods to minimise the ingress of moisture into wall or ceiling cavities..
- As ceilings, masonry and external facing walls pose a risk of higher moisture, it is advisable to seal the rear, edges, and service penetrations of the panels being installed on these surfaces.
- **As a guide, safe moisture levels are**
 - Wall cavity relative humidity = 50%
 - Ceiling roof cavity relative humidity = 50%
 - Plasterboard = < 1%
 - Other timber wall lining = <14%

Installation

Timber and Steel 450mm and 600mm Stud Frame Wall Installation [Figure 1](#) and [Figure 2](#)

- Follow fixing, adhesive, sealant, and expansion gap requirements.
- Check frames are straight and true.
- Check studs are max. 600mm apart.
- If studs are less than 600mm apart then extra noggins need to be installed to support the join, max. 700mm distance between the noggins.
- Decide how you wish to finish off internal and external corners before you install the first sheet.
- Non tongue and grooved ends of boards should **NOT** be butt joined to other boards or butted wall to ceiling. Manufacturing variations can result in the grooves not lining up and well as expansion can cause the butt join to lift.
- Start at one end or corner of the wall.

- Apply adhesive to the frame behind the first panel to be installed.
- Using 10mm spacers along the floor rest the bottom edge on the spacers, then press the panel against the wall.
- Check the first panel is straight and level, then fix it into place.
- Remove the spacers and set in place for the second panel to be installed.
- Repeat the above process for the remaining panels.
- Measure and cut the last panel to fit as required.
- Skirting, architraves, mouldings and cornice material can then be fitted.
- Seal / gap joins / full fixing head holes.

Installation onto Masonry Walls [Figure 3](#)

- Follow fixing, adhesive, sealant, and expansion gap requirements.
- Fix and level horizontal furring channels or battens to the masonry wall at max. 450mm centres, this promotes airflow behind the panel to reduce moisture uptake as well as enables the wall to be levelled if needed.
- Other installation principles are the same as fixing onto timber and steel frames.

Installation onto Ceilings [Figure 4](#)

- Follow fixing, adhesive, sealant, and expansion gap requirements.
- Install the panels across the trusses, battens, or furring channels rather than down to minimise the potential for the panel to sag.
- Ceiling trusses should be max. 700mm centres.
- Battens or furring channels should be run across the trusses at a max. 450mm spacing.
- If ceiling trusses are max. 450mm apart then the panel can be installed directly across them.
- Panels should not be installed in a brick shaped pattern. The ends of sheets should be installed in a line so a decorative batten or similar can be installed over the expansion gap to hide the join.
- If installing panels end to end, the non tongue and grooved ends of sheets should finish on a batten with a 5mm expansion gap put in place before next sheet is started. Different finishing options are available to hide this join

Installation over the top of Plasterboard and other existing Wall Linings [Figure 5](#)

- Follow fixing, adhesive, sealant, and expansion gap requirements.
- Check that the wall lining you are attaching to is fixed correctly to the wall frames, if not, corrective measures should be implemented.
- Ensure the surface is in good condition; a gentle sanding may be necessary to eliminate any loose material and facilitate adhesive adherence. If the surface is damaged, consider taking corrective measures before proceeding further.
- Check the flatness of the wall, if the wall is not flat you may have to consider installing battens / furring channels the same as onto masonry walls so that you can correct this.
- Use a stud finder to locate position of studs, noggins, battens, or furring channels to fix into.
- Other installation principles are the same as fixing on to timber or steel framed walls.

Installation of Panels Horizontally [Figure 6](#)

- Note the fixing, adhesive, sealant, and expansion gap requirements.
- The tongue of the panel should be positioned facing upwards. It does not require an extra row of noggins as the tongue will act as a support for the join.
- Wall panels should NOT be to butt joined to other panels. Manufacturing variations can result in the grooves not lining up and expansion can cause the butt join to lift. Adhere to expansion gap guidelines and conceal joints with trim, such as a dressed cornice batten. **Refer to Figure 9.**
- The ends of the sheets should be supported by studs, battens, furring channels or adhesives if being installed on an existing wall..
- Other installation principles are the same as fixing on to timber or steel framed walls.

Installation of Partial Height Panels [Figure 7](#)

- Note the fixing, adhesive, sealant, and expansion gap requirements.
- A row of noggins should be placed at the top of the panel to support the non tongue and groove end of the panel.
- A row of noggins should be placed approx. half way between the top of the panel and the bottom.
- Other installation principles are the same as fixing onto timber, steel, or masonry walls.

Installation of Mouldings, Cornices, Skirtings & Architraves [Figure 8](#)

- Apply flexible gap filler to adhere the trim to the panel.
- Use the same nail fixings as when installing onto walls.

Installing near Fireplaces and Heat Sources [Figure 10](#)

- Special consideration needs to be taken when installing panels near a fireplace or heat source to avoid any potential safety hazards.
- Each manufacturer of a heat source such as an oven, heater or fireplace may have different exclusion zone requirements depending on their method of construction.
- It is our recommendation to follow the manufacturer's installation recommendations in conjunction with Australian and New Zealand Standard 2918.
- The diagrams in our schematic section are examples only of some common exclusion zones.

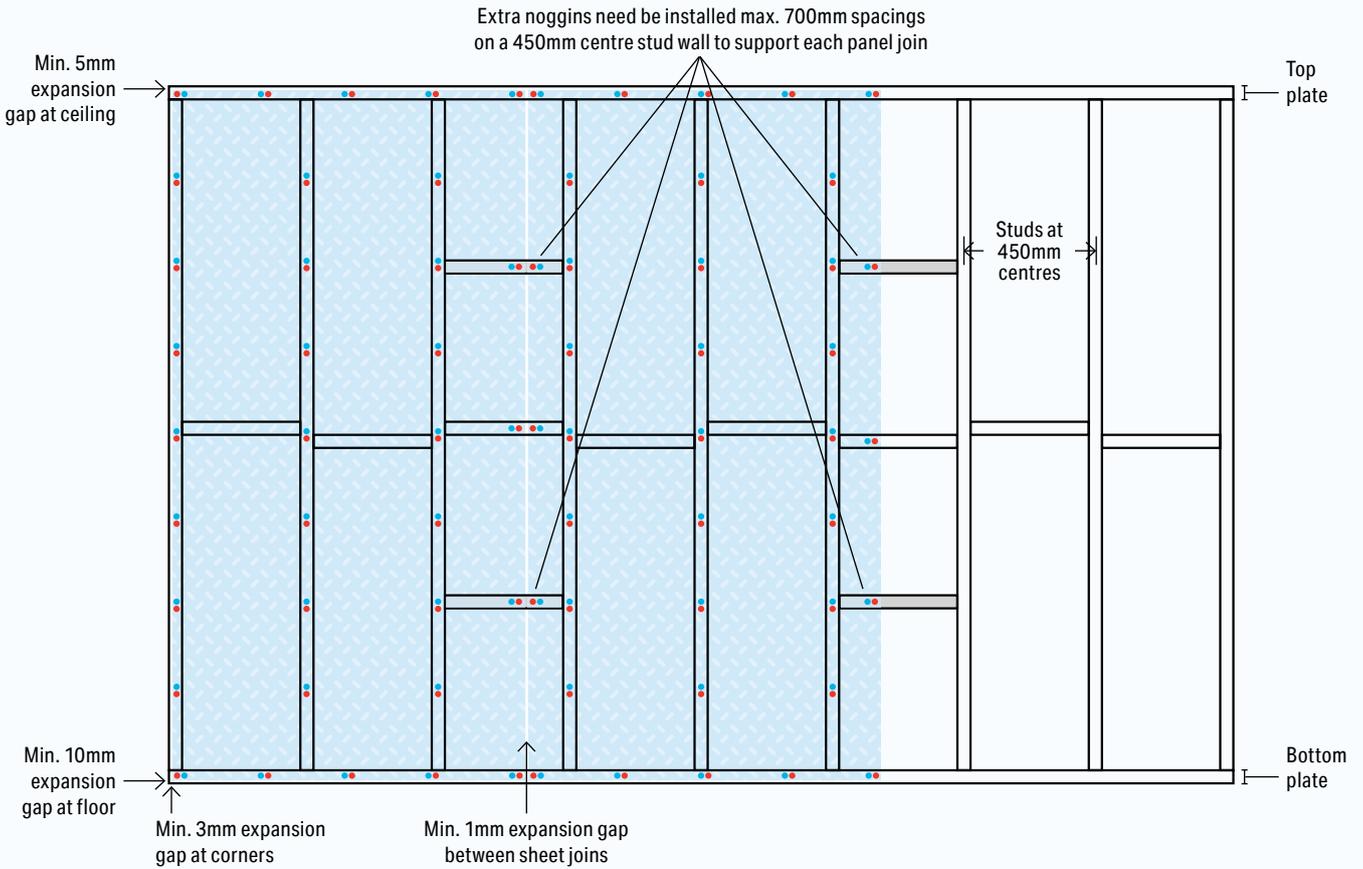
Finishing

Painting or Staining

- The surface of the panel should be clean and free from dirt and debris. A light sanding of the surface is recommended to create a suitable "key" for the primer.
- After sanding, remove residual dust and debris with a vacuum cleaner and wipe down the wall panels with a clean damp cloth or sponge. Prior to coating check the moisture content of the board with a moisture meter. The moisture level must be below 15% prior to application.
- Refer to Dulux's paint and stain recommendations on our website: www.australianpanels.com.au/ranges/structapanel-h2-12mm

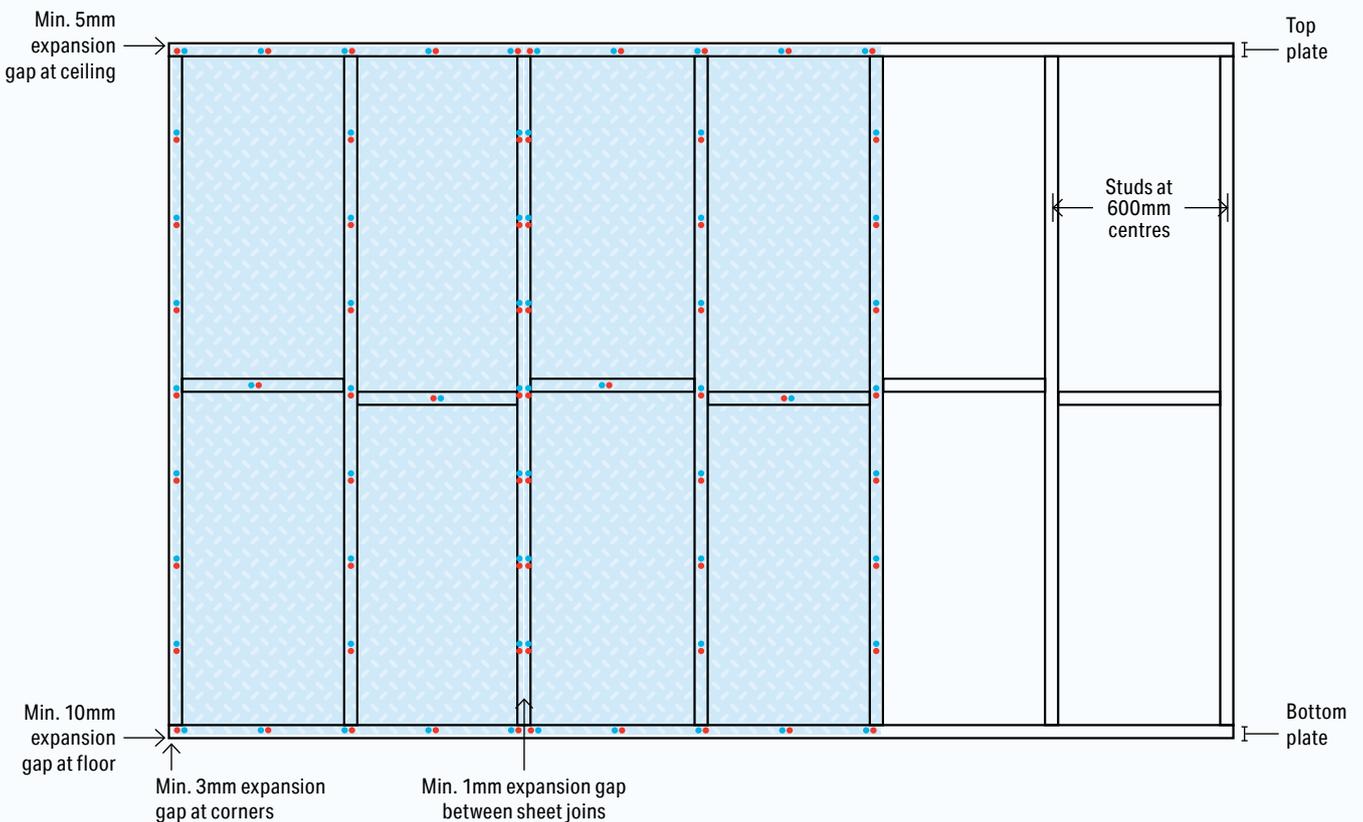
Timber and Steel 450mm Stud Frame Wall Installation

Figure 1



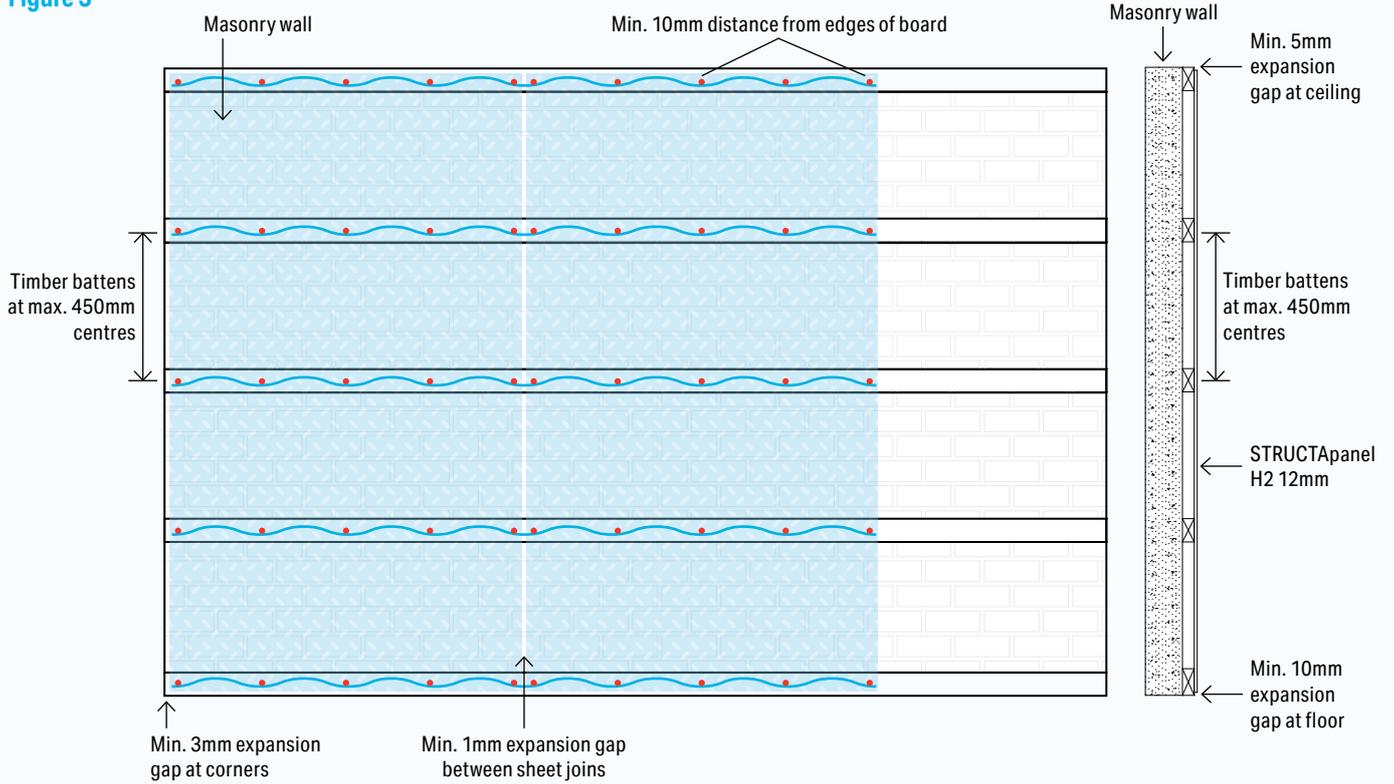
Timber and Steel 600mm Stud Frame Wall Installation

Figure 2



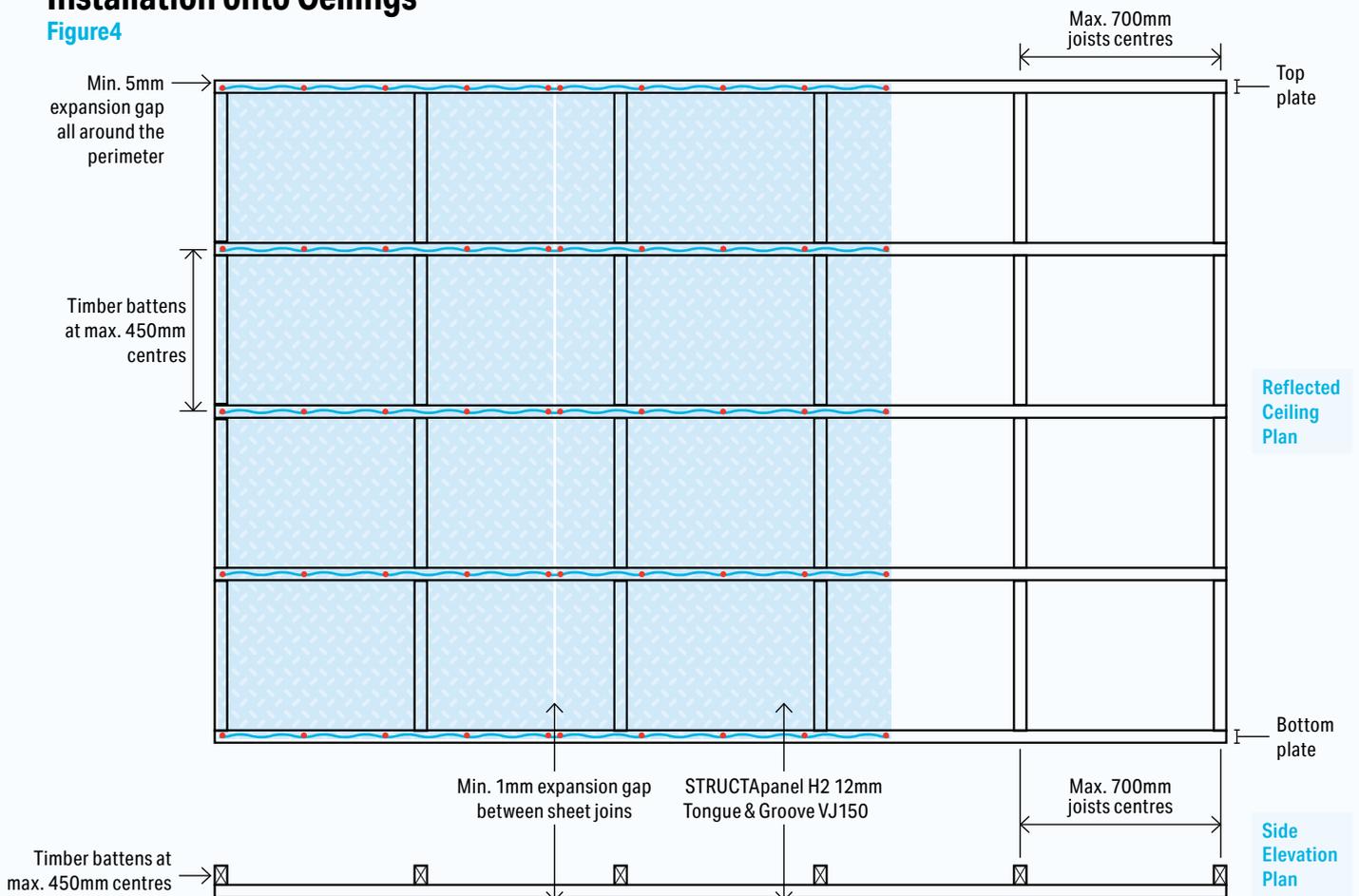
Installation onto Masonry Walls

Figure 3



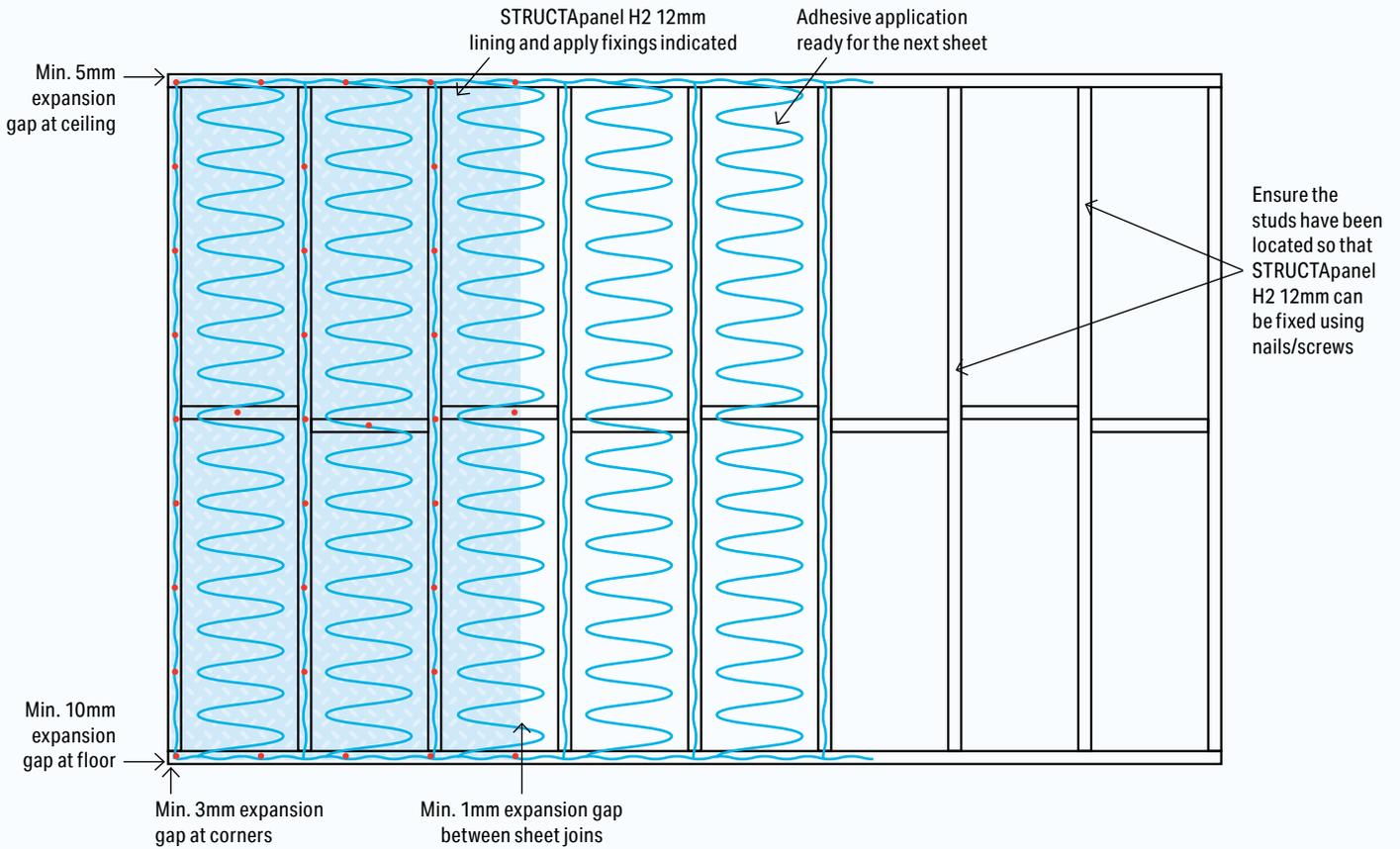
Installation onto Ceilings

Figure 4



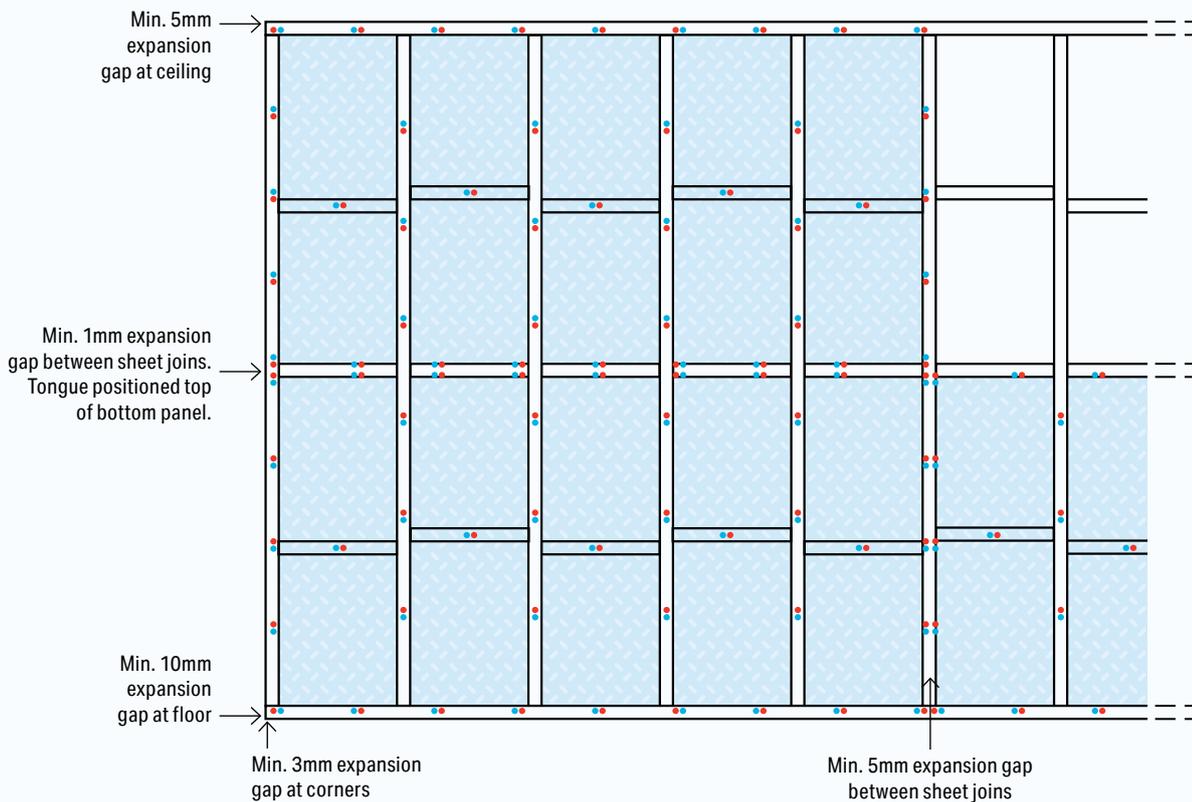
Installation over the top of Plasterboard and other Existing Wall Linings

Figure 5



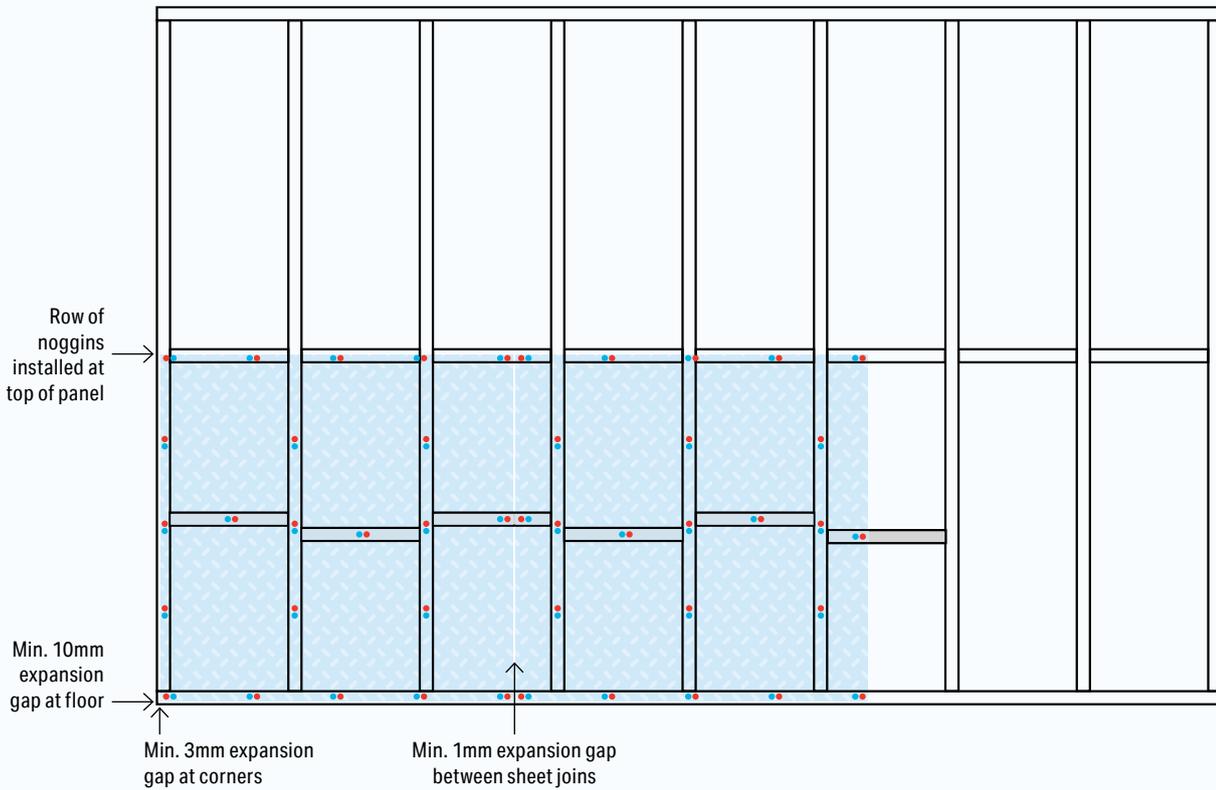
Installation of Panels Horizontally

Figure 6



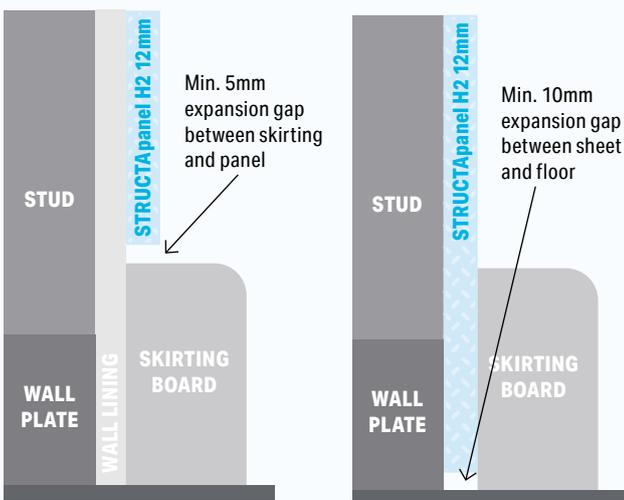
Installation of Partial Height Panels

Figure 7



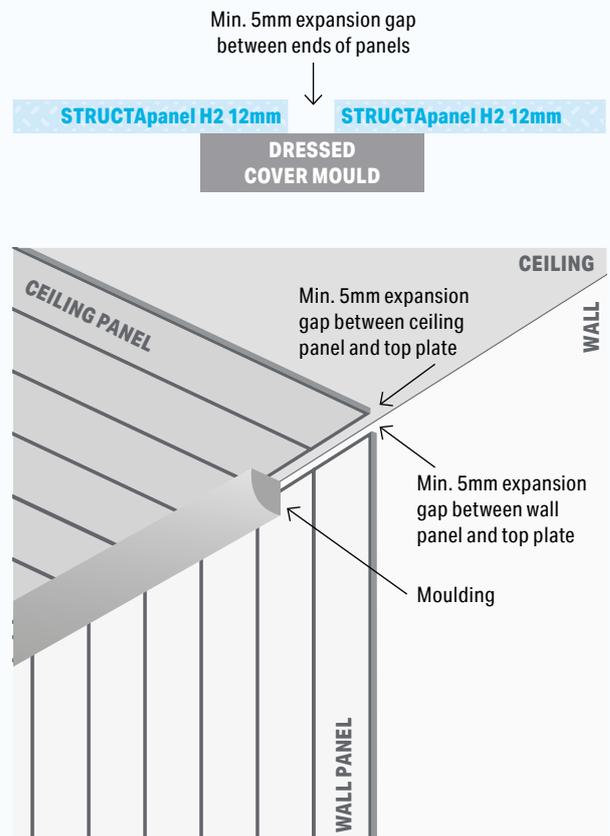
Installation of Mouldings, Cornices, Skirtings & Architraves

Figure 8



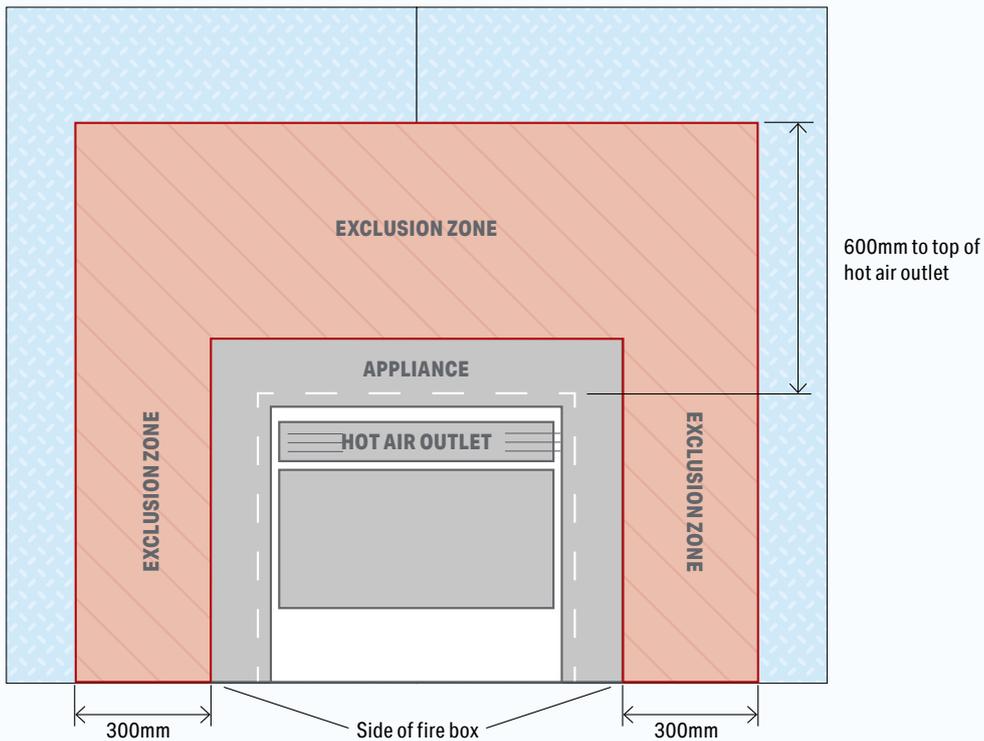
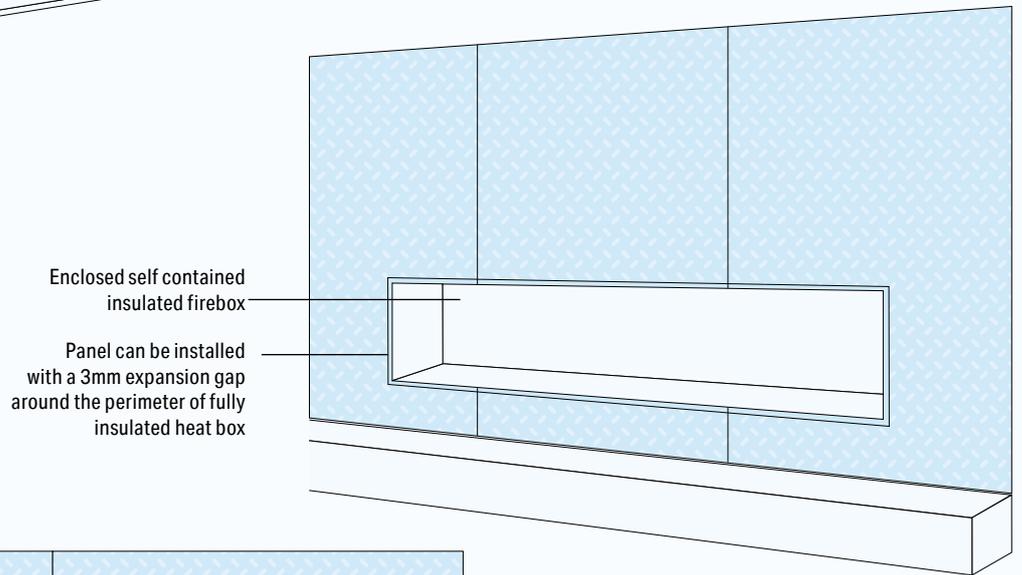
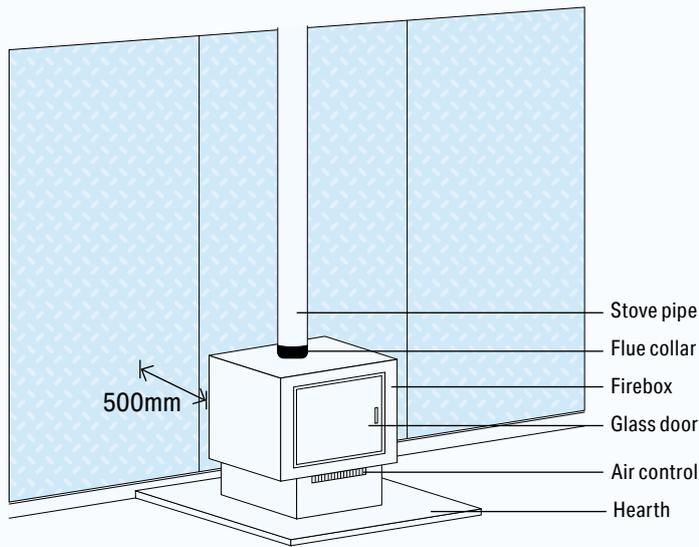
Installing Panels End to End

Figure 9



Installing around Fireplaces and Heat Sources

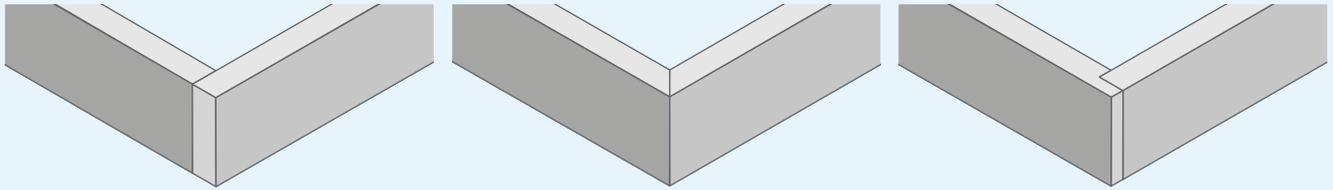
Figure 10



Cornice, Mouldings, Skirting and Architrave Ideas

Figure 11

Skirting

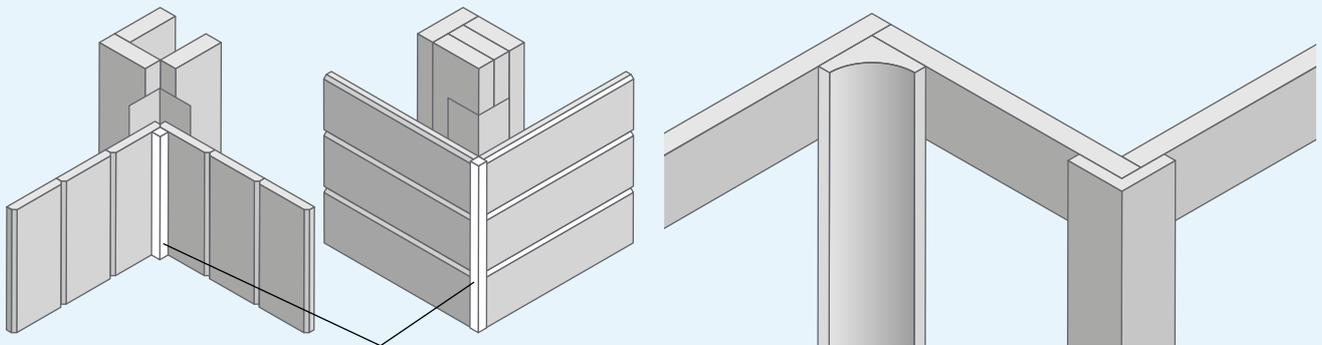


Butt

Mitre

Rebated

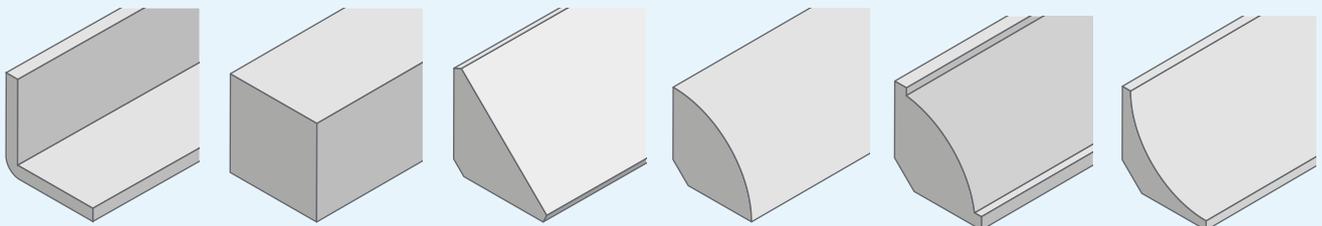
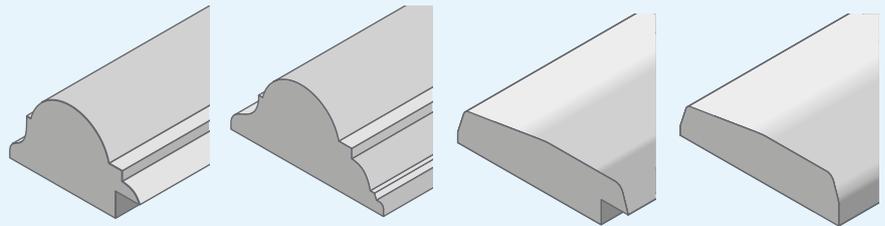
Mouldings



Internal and external corners using DAR Stops

Internal and external corner moulding

Below are some examples of product found in your local Reseller that may compliment and provide options in finishing off your panel project.



External Corner

DAR Stop

Tri-Quad Corner Moulding

Quad Corner Moulding

Ovolo Corner Moulding

Scotia Corner Moulding

HOARDING

Temporary Hoarding Panelling

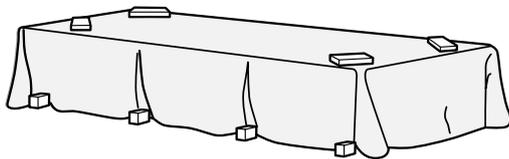
Fixing onto hoarding framework

Tools Required

- Screw gun
- String line
- Straight edge
- Screws - A min of 5 x type 17 - 14g x 50mm self tapping galvanized wood screws or similar

Installation

- Panel should be stored dry before fixing onto hoarding framework
- When storing outside, ensure packs are kept clear off the ground. Cover with waterproof sheeting laid on evenly spaced timber battens so that air circulates freely between the waterproof cover and the product



- STRUCTApanel H2 12mm should be fixed to a min of 3 rails, top / middle and bottom of sheet
- STRUCTApanel H2 12mm should have a gap at the bottom of at least 20mm from the ground and shouldn't be able to constantly be in contact with pooling water, soil, etc
- STRUCTApanel H2 12mm should not have other materials pushed up against it including landscaping, garden material, etc
- A min of 5 x type 17 - 14g x 50mm self tapping galvanized wood screws or similar should be used to fix the STRUCTApanel to each rail with the screws on each edge being a min of 20mm from the edge
- A 3mm expansion gap should be placed between each panel
- Screws should be checked and retightened if required during the time the hoarding is erected
- STRUCTApanel H2 12mm is non-structural



Temporary Hoarding Panelling

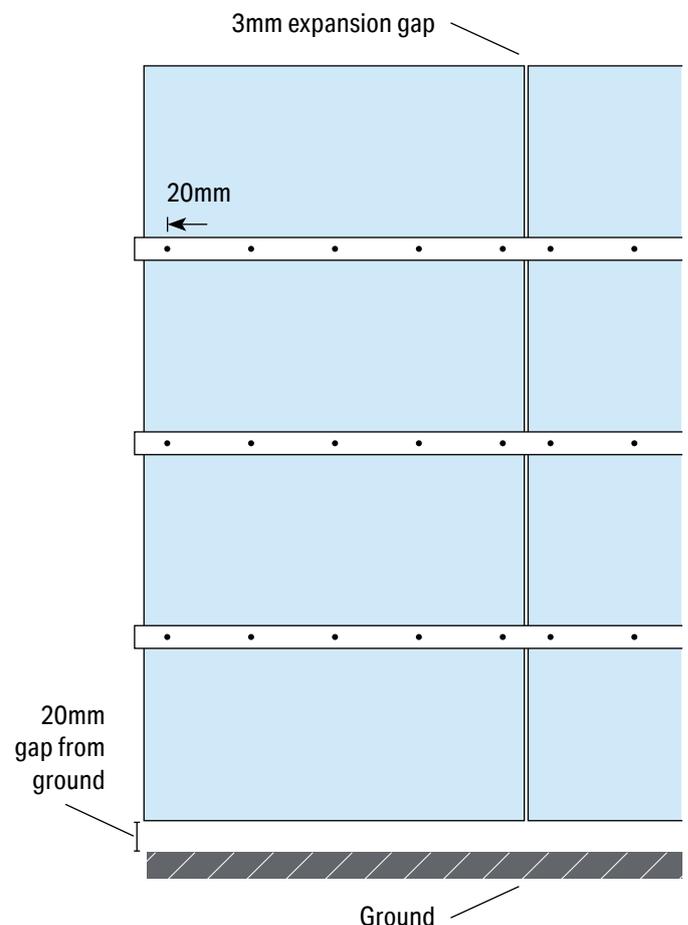


Figure 3

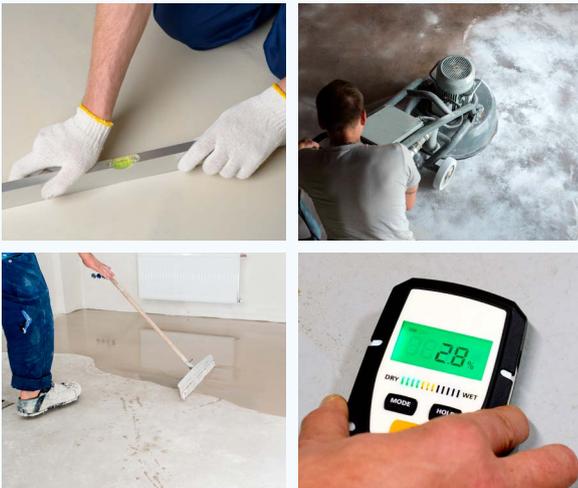
FLOORING UNDERLAY

Timber Flooring Underlay

Laying over concrete and under timber strip flooring

1. Concrete Preparation

- All slab should be flat with no more than 3mm below a straight edge spanning between two high points 1.5m apart
- If the concrete slab is not flat then surface preparation such as grinding or leveling is needed
- Concrete moisture content should be less than 4%
- Slabs on the ground should be constructed with a continuous under slab vapour barrier (in accordance with AS 2780)



2. STRUCTApanel H2 12mm Acclimatisation

- STRUCTApanel H2 12mm should be allowed to acclimatise to the rooms normal in service EMC
- STRUCTApanel H2 12mm should remain dry at all times



3. Laying a Moisture Vapor Barrier Under STRUCTApanel H2 12mm

- A minimum 0.2m plastic moisture vapor barrier should be laid on top of the concrete slab, with joins overlapped by 300mm and taped. Plastic should go up the wall to above the height of the top surface of STRUCTApanel



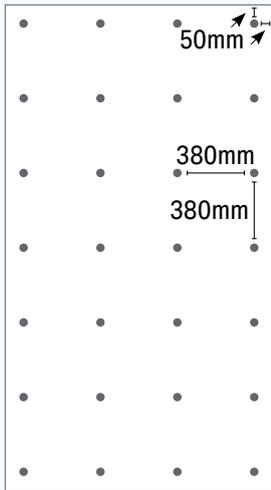
4. Installing STRUCTApanel H2 12mm

- Lay in a brick shaped pattern
- Expansion Gaps:
 - 10mm around the outside of perimeter walls or fixtures,
 - 3-5mm between the edges of each sheet
- Max expansion gaps (5mm) can be used in high humidity conditions
- Min expansion gaps (3mm) can be used in low humidity conditions



5. Fixings

- Appropriate anti rust concrete fixings should be positioned approx. 50mm in from edges of sheet, and approx. 380mm apart i.e. approx. 7 rows down the panel length and 4 rows across the panel width
- Fix STRUCTApanel H2 12mm sheets through the membrane to the slab with hand driven 50mm long by 6.5mm spikes (Powers SPIKE), or masonry split anchors 50mm long by 6mm, or equivalent
- Heads should be positioned under the surface of the panel to allow for sanding >>

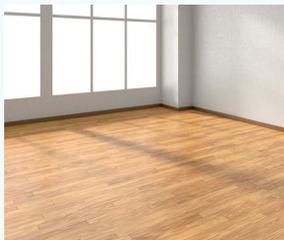


6. Laying of Timber Strip Flooring

- Timber strip flooring should be laid following manufacturer's recommendations



7. Sealing of Timber Strip Flooring



8. Additional Information

- STRUCTApanel H2 12mm is a non-structural panel and should not be laid directly to joists or battens

FLOORING

With an extensive range of options, Australian Panels can accommodate subfloors, suspended floors in multi-storey construction, building additions and extensions along with oversized commercial flooring spaces.

PANELLING

Made with the same durable materials used in our market leading STRUCTAflor particleboard flooring products, the new and exciting panelling products consist of STRUCTApanel H2 9mm Treated Structural and 12mm Non-Structural Panelling.

BOARD

Our CUSTOMwood (MDF) and CUSTOMpine (Particleboard) ranges both have Raw and Laminated options that make a versatile product to use in interior fitout solutions. Whether it be for the reliable quality that guarantees uniformity in size, density, and strength or for applications that are subject to humidity or moisture, such as bathroom vanities and kitchen cupboards, Australian Panels has the solution.

MOULDINGS

Manufactured in a wide range of design styles our mouldings and architraves are produced from premium grade MR CUSTOMwood MDF. They are pre-primed and ready to use on internal decorative trims, such as door jambs and skirtings and are guaranteed not to warp, buckle or split.



Scan the QR code to view
the full range of products



**Australian
PANELS**

www.australianpanels.com.au