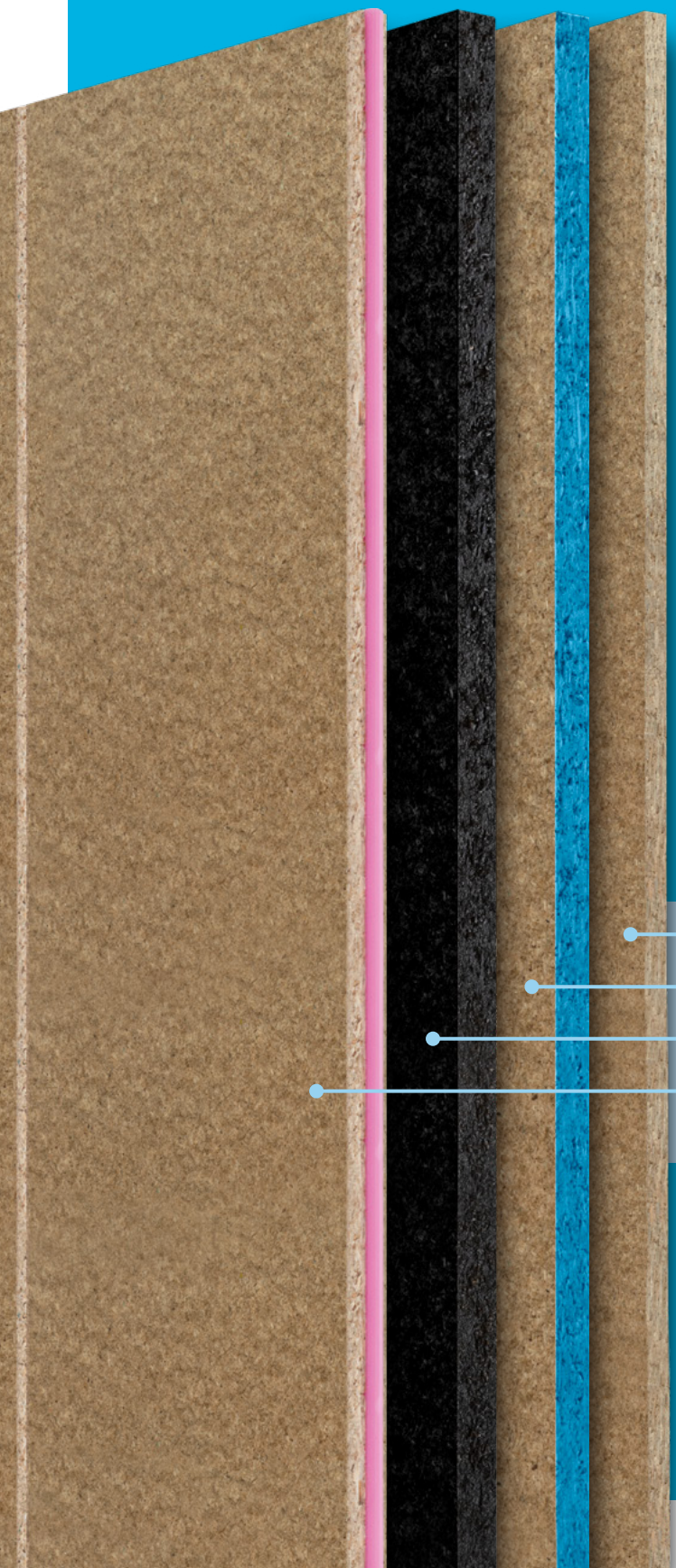
Australian PANELS

STRUCTApanel



High-Performance Structural Panel

- Bracing certified
- Made with the same durable materials used in our market leading STRUCTAflor particleboard flooring products
- Designed for superior performance
- High surface impact resistance
- Superior screw holding capability

AUSTRALIAN MADE AND OWNED

Responsible Wood

PEFC
PEFC/21-31-145

www.australianpanels.com.au

07.2024

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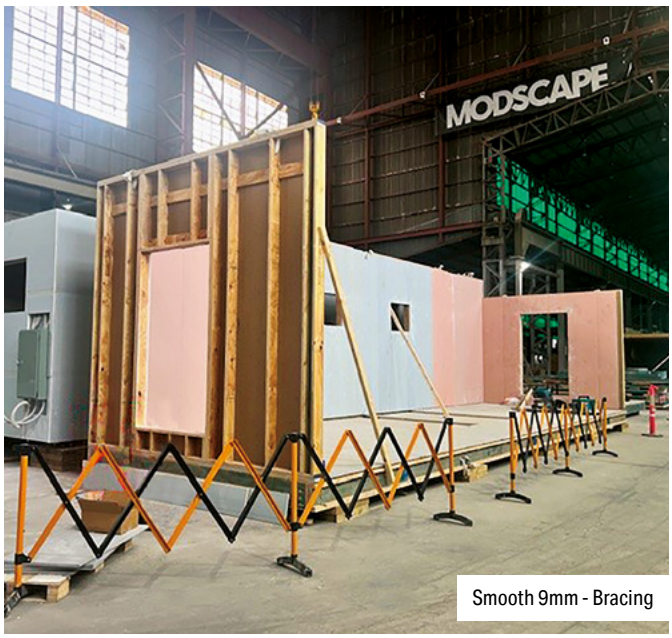
Black sheet packs

Tongue & Groove VJ150 sheet packs



Smooth 9mm - Bracing


Black 12mm - Temporary hoarding panelling


Tongue & Groove VJ150 - Internal wall panelling


Smooth 12mm - Timber flooring underlay


Black 12mm - Temporary hoarding panelling

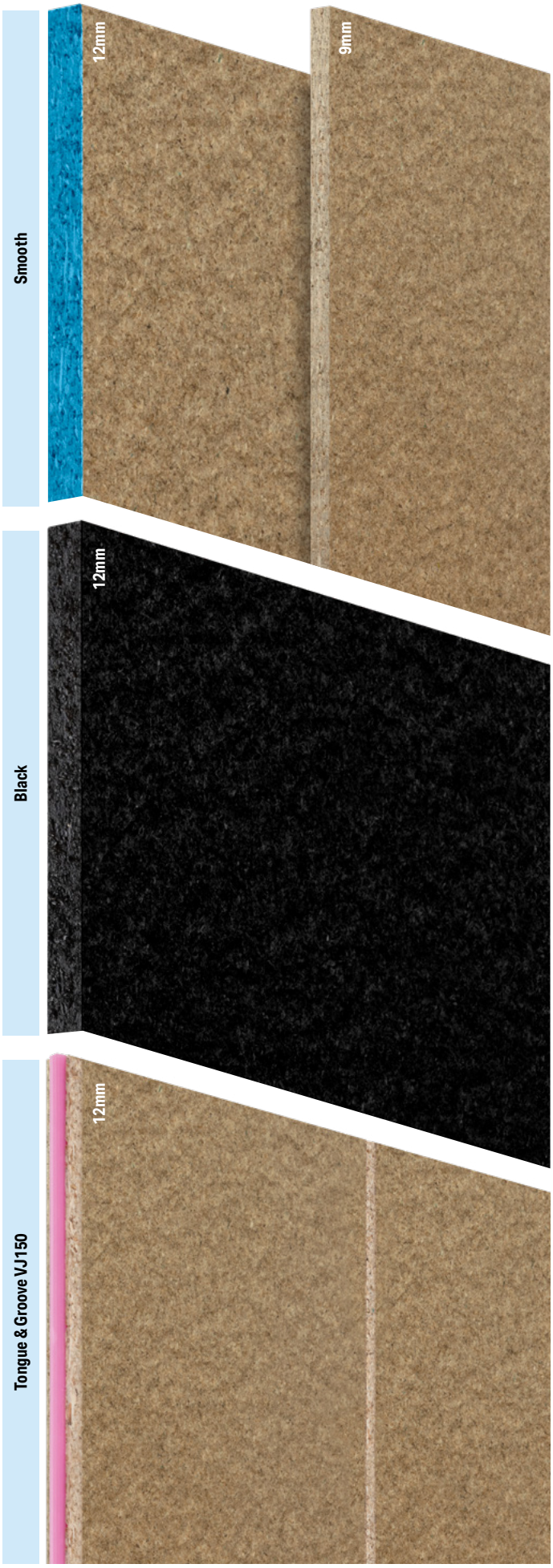
FEATURES

STRUCTApanel is a high-performance structural panel available in three finishes: Smooth, Black and Tongue & Groove VJ150.

Manufactured in Australia with the same durable materials used in our market-leading STRUCTAflor particleboard flooring, STRUCTApanel boasts exceptional surface impact resistance and superior screw holding capabilities.

STRUCTApanel is bracing certified making it an ideal choice for a variety of construction applications where strength and reliability are paramount.

- Superior surface impact resistance compared to plywood and plasterboard
- High fixing capability with the ability to screw directly into sheet
- Made in Australia from sustainable certified plantation forestry
- H2 treated for termite resistance
- Bracing certified for wall bracing applications
- Consistently flat with no internal delamination
- Consistent board surface, no knot holes, splitting or splinters
- Easy to cut leaving smooth, clean edges



SPECIFICATIONS

Product Range

	Sheet Dimensions				Weight Chart				Applications						
IN	Product	Finish	Thickness mm	Sheet Size mm	Pack Size	Area/Pack m^2	Weight/sheet kg	Weight/pack kg	Bracing certified	Internal wall & ceiling panelling	Temporary hoarding	Timber flooring underlay	Dongas	Boxes/packaging	Sips manufacture
52741	Smooth	Raw	9	2440 x 1200	60	292.8	19	1140	✓	✓	-	-	✓	✓	✓
52740	Smooth	Raw	9	2745 x 1200	60	329.4	21.4	1284	✓	✓	-	-	✓	✓	✓
52739	Smooth	Raw	9	3050 x 1200	60	366.0	23.8	1428	✓	✓	-	-	✓	✓	✓
55595	Smooth	Raw	12	2400 x 1200	45	129.5	24.4	1099	✓	✓	✓	✓	✓	✓	✓
56725	T&G VJ150	Raw	12	2400 x 1200	30	86.4	24.4	732	✓	✓	-	-	✓	-	✓
5559	Black	Pre-finished	12	2400 x 1200	45	129.5	24.4	1099	✓	✓	✓	-	✓	✓	✓

Performance Criteria (Typical results achieved)

Size Tolerances		STRUCTApanel 12mm	Non-Structural Pine Plywood	STRUCTApanel 9mm	OSB 9mm	Plywood 9mm	Plasterboard
Density	kg/m^3	707	458.73	710	630	650	650
Thickness Swell (24hrs)	%	3.04	4.25	3.5	11	-	-
Impact Resistance (Janka)	N	-	-	5030	3895	2522	566
MOR	MPa	25.56	24.44	24	26.7	-	-
MOE	MPa	3342	1556	3123	2966	-	-
Surface Water Absorption	g/m^2	26.2	534.46	-	-	-	-
Surface Hardness	N	4550	3665	-	-	-	-
Nail Holding	N	560	502	-	-	-	-
Screw Holding	N	1880.31	995.12	1019	912	931	98
Lateral Screw Holding*	kg/screw	-	-	87	61	83	28

*Screw holding test using 30mm x 6-gauge fixings screwed directly to wall panel (not screwed to wall studs).

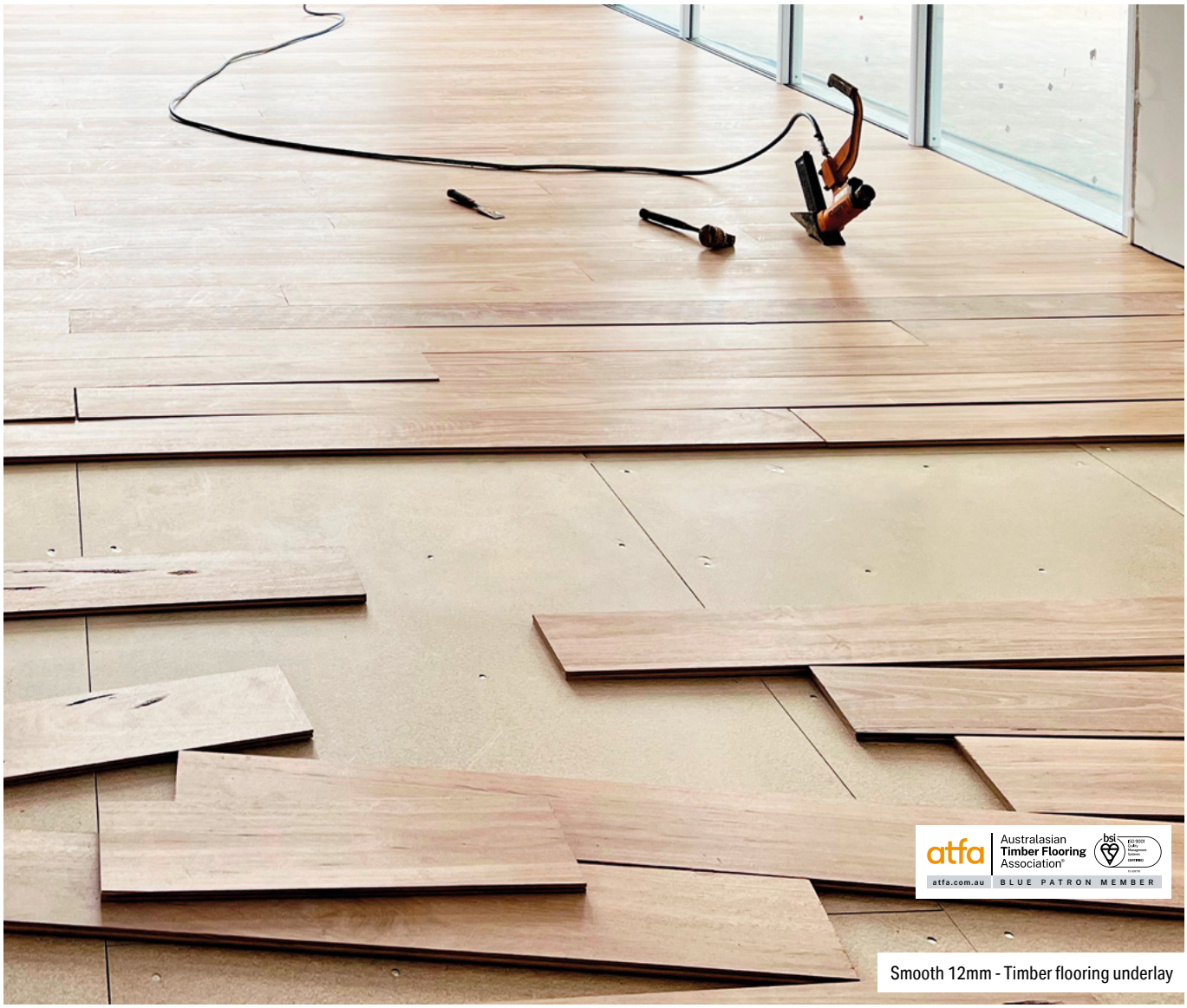
STRUCTApanel 12mm Exceeds AS 1859.1 High Performance Particleboard for tests MOR / MOE / IB / Thickness swell / MORA.

Smooth

STRUCTApanel Smooth is a highly versatile, bracing-certified panel known for its wide range of applications. Available in both 9mm and 12mm thicknesses, it offers a reliable solution for various construction and manufacturing needs. Its smooth finish and robust construction make it an ideal choice for projects requiring durability and ease of installation.

- Bracing-certified, ensuring compliance with structural standards
- Clean Smooth surface that is easy to paint or finish
- Suitable for a wide range of uses, making it a flexible and economical choice for various industries and projects
- Engineered for strength and longevity, ensuring lasting performance even in demanding environments
- 12 month warranty for temporary external hoarding applications as per the installation and warranty requirements

Smooth 12mm - Internal wall panelling



Smooth 12mm - Timber flooring underlay

Smooth 12mm - Temporary hoarding panelling

Smooth 9mm - Internal wall panelling

Black

STRUCTApanel Black is a high-performance, structurally certified panel specifically designed for bracing applications, making it an ideal choice for temporary hoarding and internal wall panelling. This panel combines durability, consistency, and ease of use, offering numerous benefits to meet the demands of various construction and temporary enclosure projects.

- STRUCTApanel Black comes prefinished in black colour, eliminating the need for additional painting or finishing on-site
- Primed on one side and all four edges
- Easy to cut leaving smooth, clean edges
- 12 month warranty for temporary external hoarding applications as per the installation and warranty requirements

Tongue & Groove VJ150

STRUCTApanel VJ150 is a high-quality, versatile solution designed to meet the needs of various internal wall lining applications, such as workshops and garages. Available in a convenient 12mm thickness, this panelling features a modern v-groove design with a 150mm profile that runs the entire length of the panel. The pink colour-coded PVC tongue and groove system allows for installation up to 50% faster and is 300% tougher than traditional plasterboard.

- Faster, simpler installation with no joining strips required
- Consistently flat with no internal delamination
- Consistent board surface, no knot holes, splitting or splinters
- Easy to cut leaving smooth, clean edges
- Bracing certified, ensuring compliance with structural standards

Internal Wall Panelling Installation

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 joins must be supported by additional noggins at 700mm maximum spacings.
- Wall panels should NOT be to butt joined to other panels including ceiling panels. expansion can cause the butt join to move. If the panel is painted, the painted join will crack. 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 STRUCTApanel is being installed have the appropriate moisture content.

Tools Required

- P1 or P2 Dust Mask & Safety Glasses
- Caulking Cartridge Gun or Spatula

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 zigzag pattern.

Expansion Gap Allowances

For walls allow:

- 5mm at wall to ceiling interface and 10mm at wall to floor interface.
- 1mm between long edge 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 long edge 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 vapour 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.
- Short 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 short 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.
- If installing the T&G VJ150 panelling 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.
- If installing the Smooth panelling, the top of the panel should be supported by a row of noggins.
- Wall panels should NOT be 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 short 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 and 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.

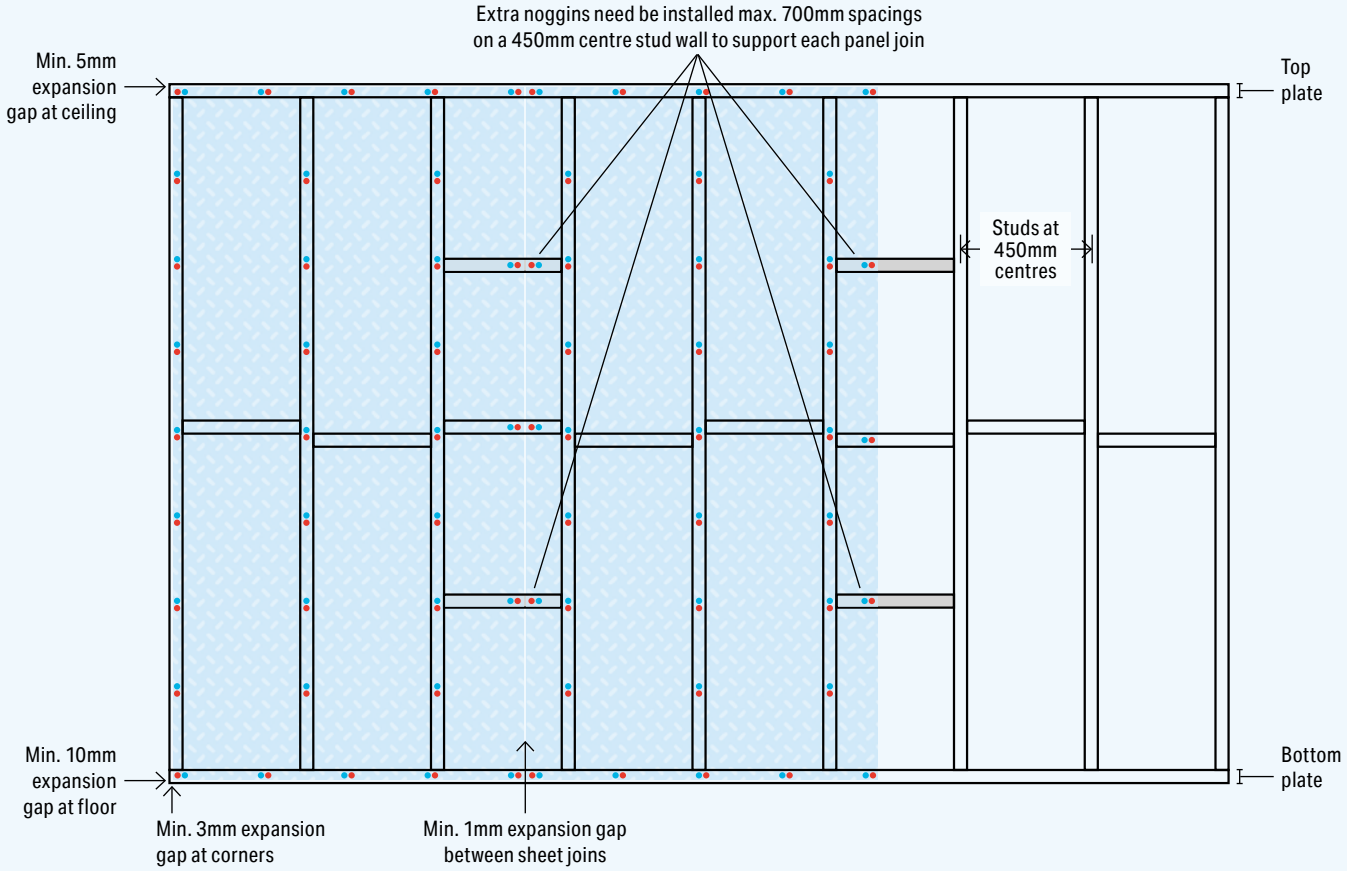
Finishing

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

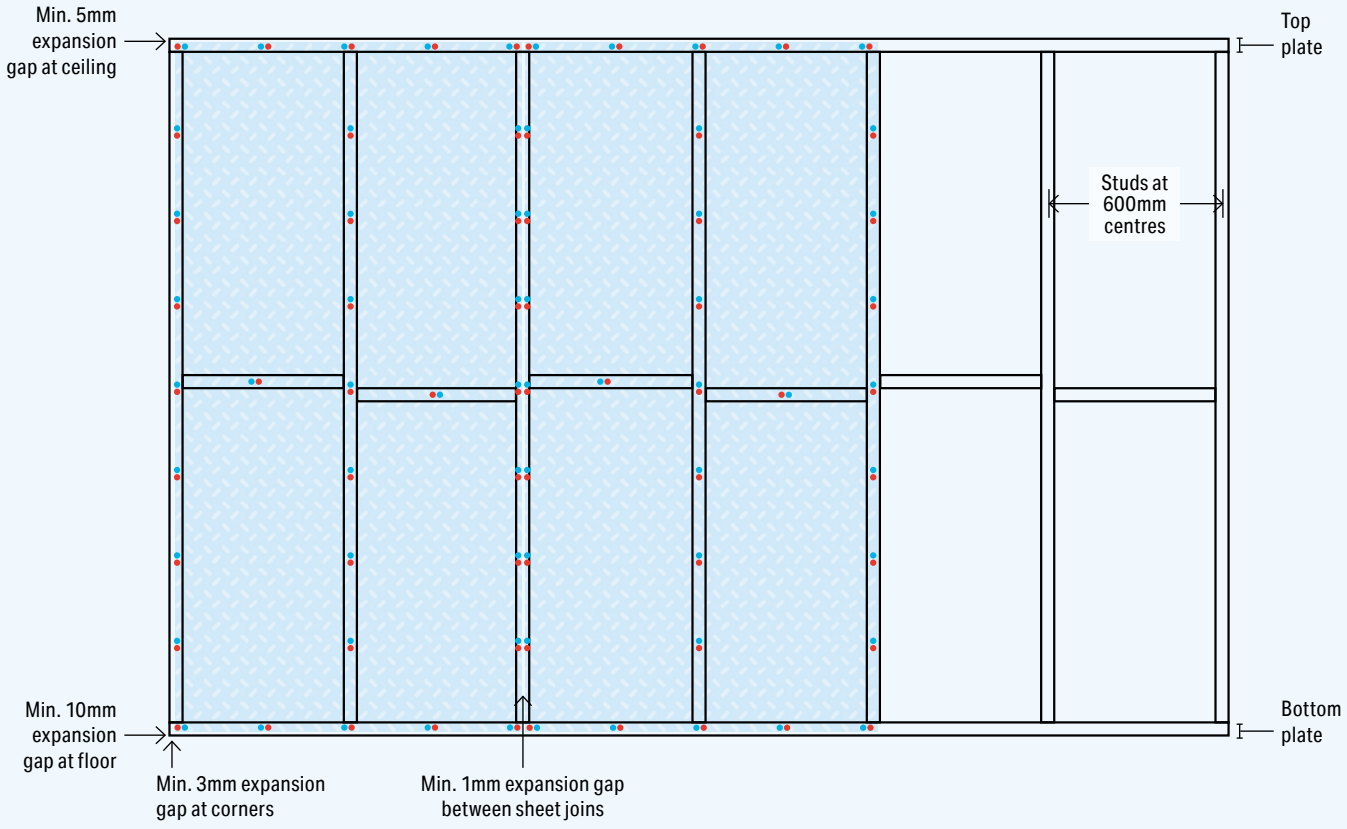
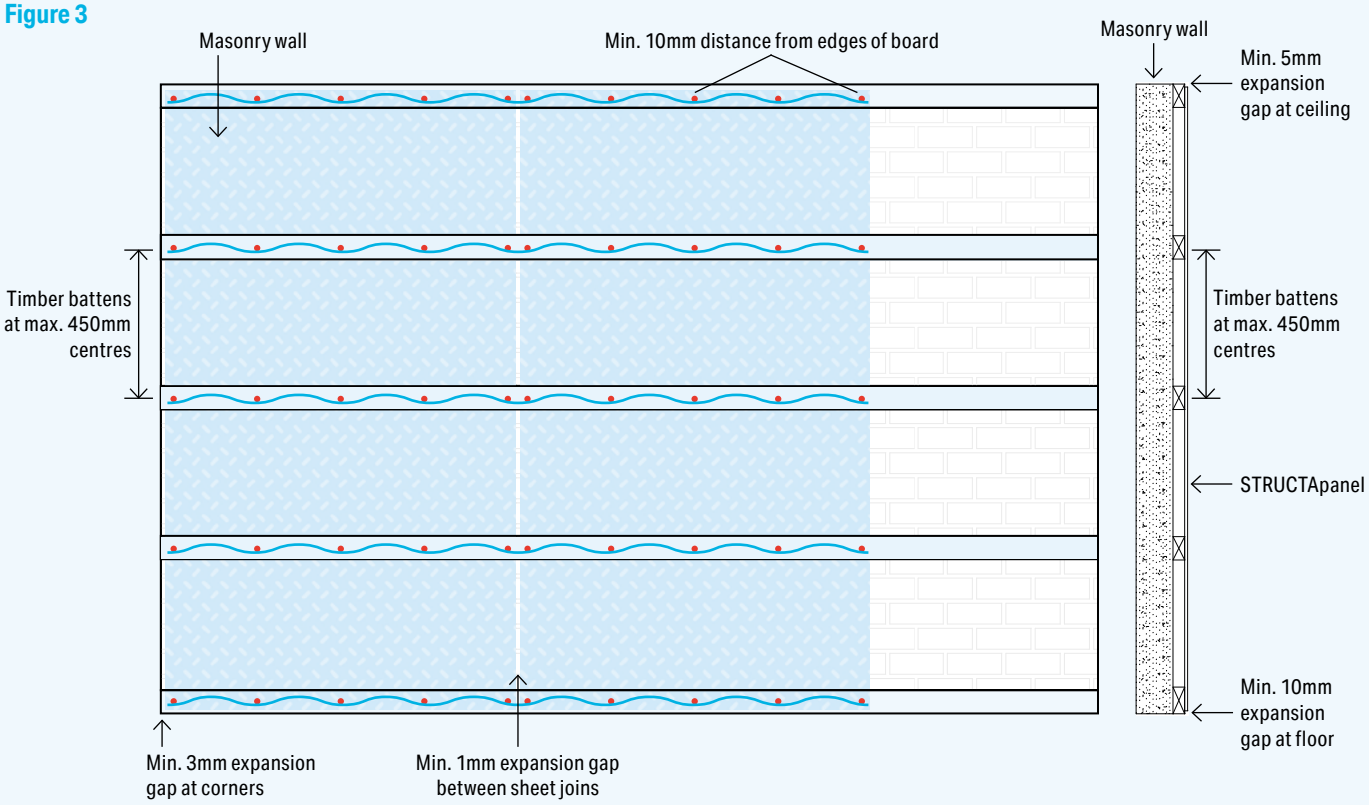


Diagram Legend STRUCTApanel Glue Glue Fixings

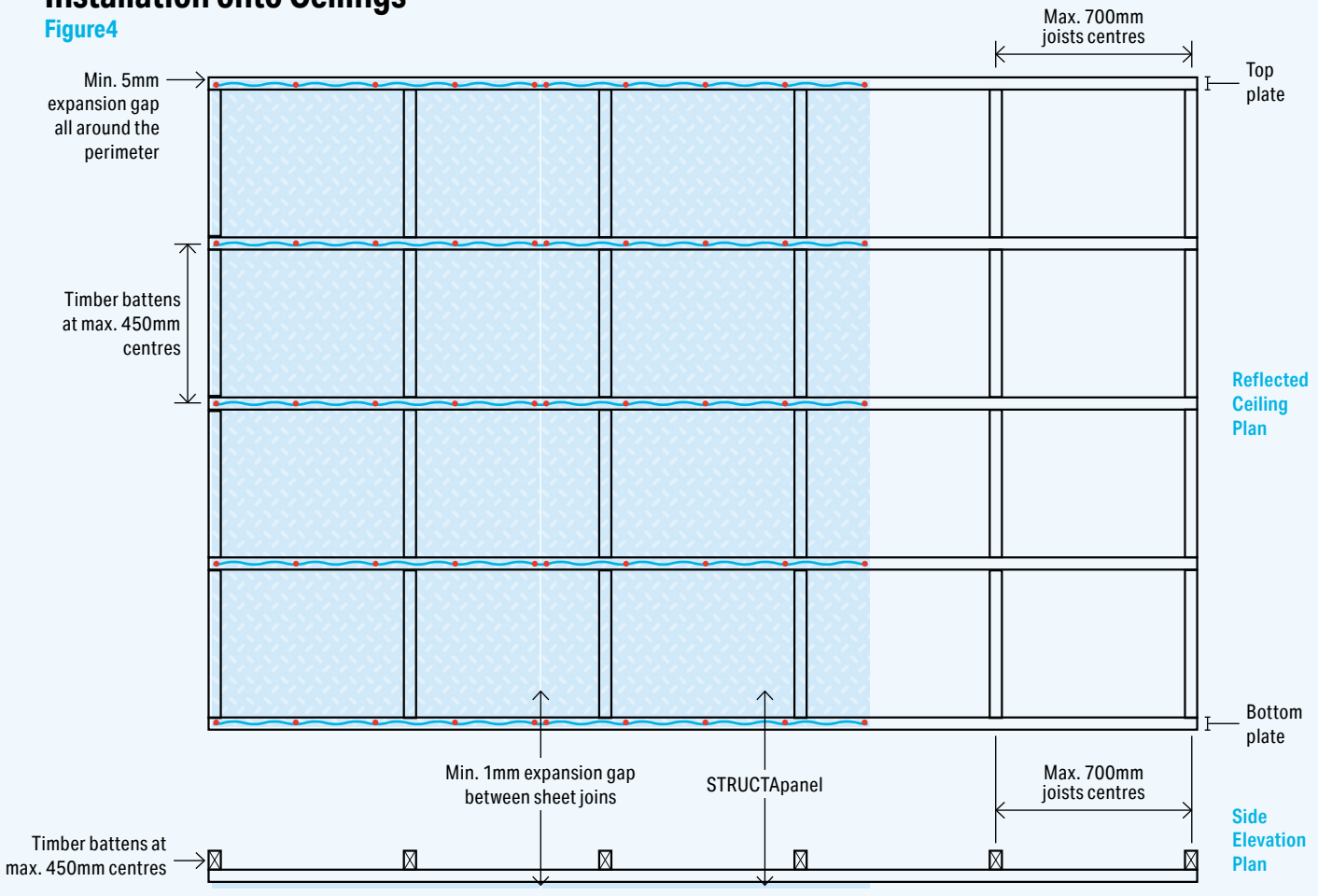
Installation onto Masonry Walls

Figure 3



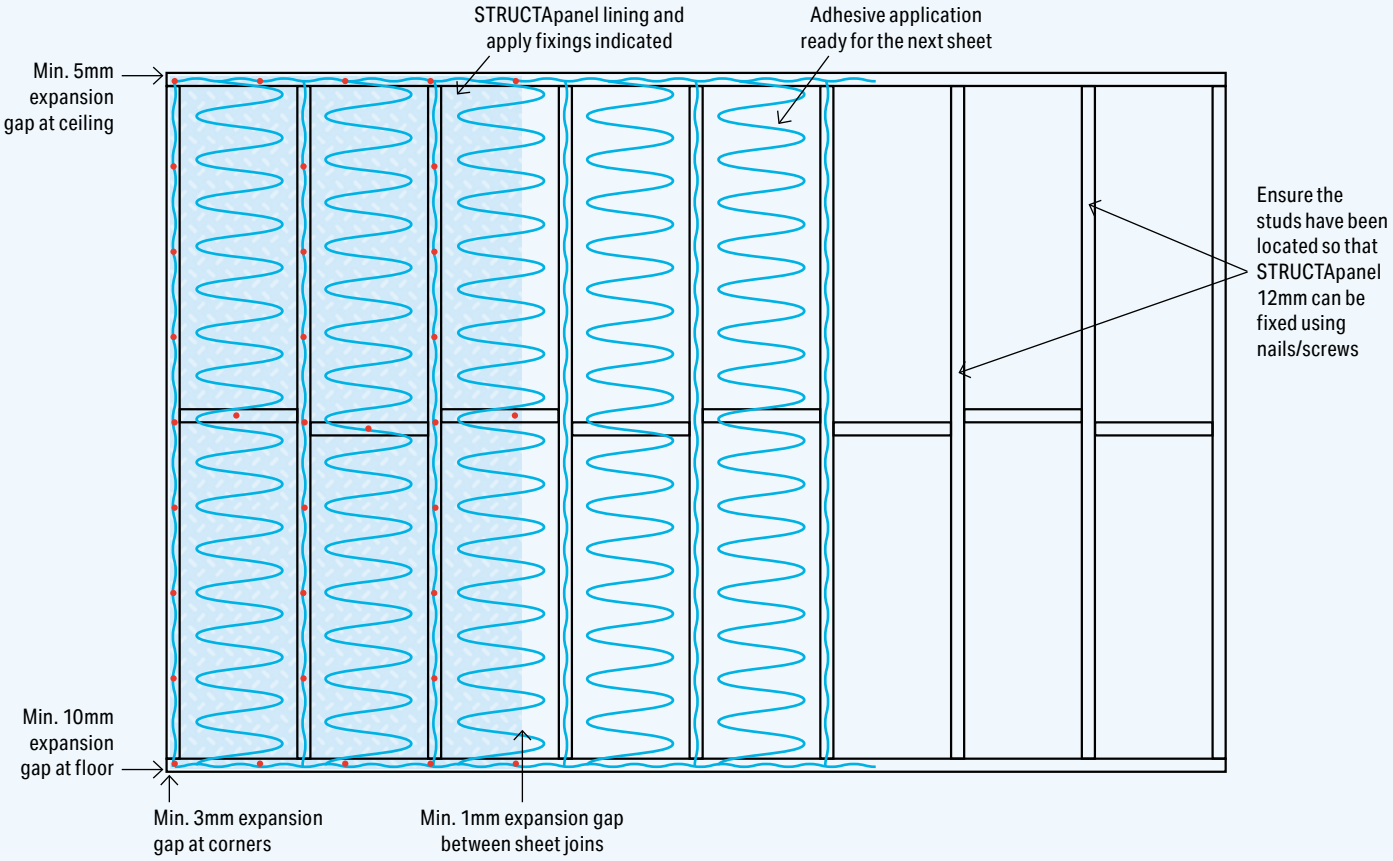
Installation onto Ceilings

Figure4



Installation over the top of Plasterboard and other Existing Wall Linings

Figure 5



Installation of Panels Horizontally

Figure 6

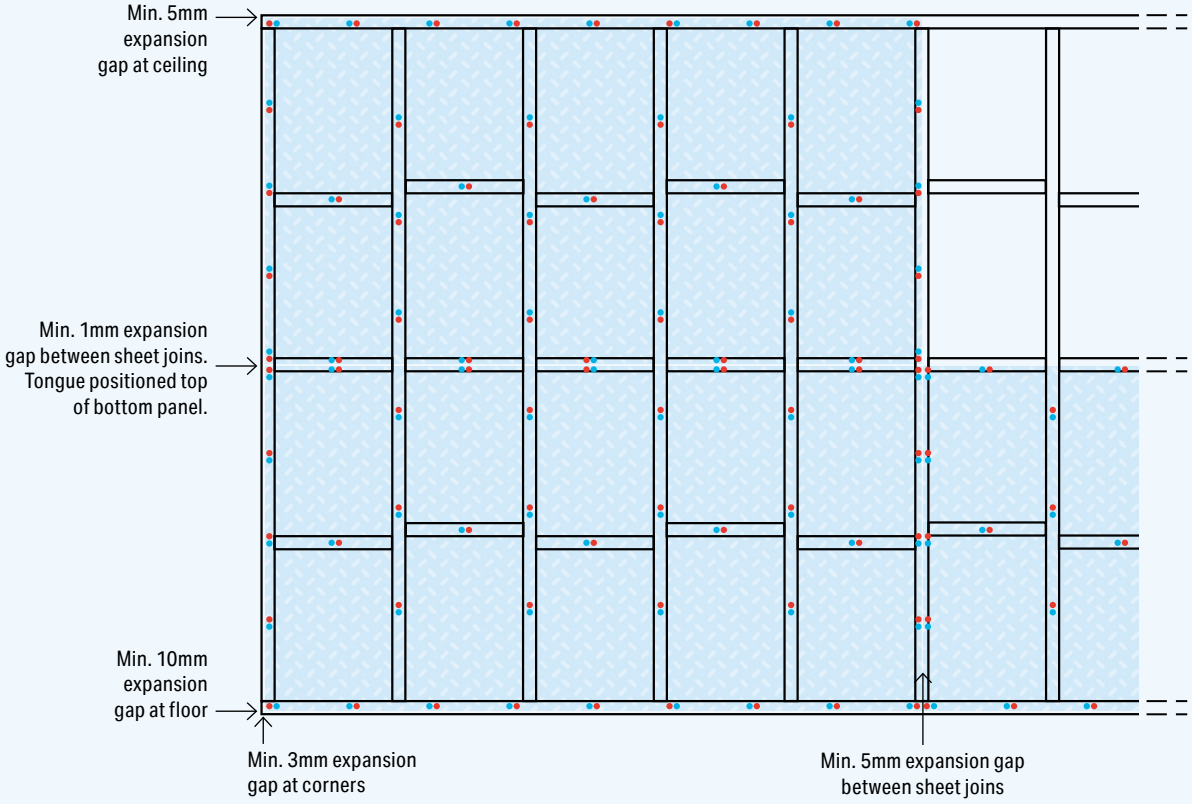
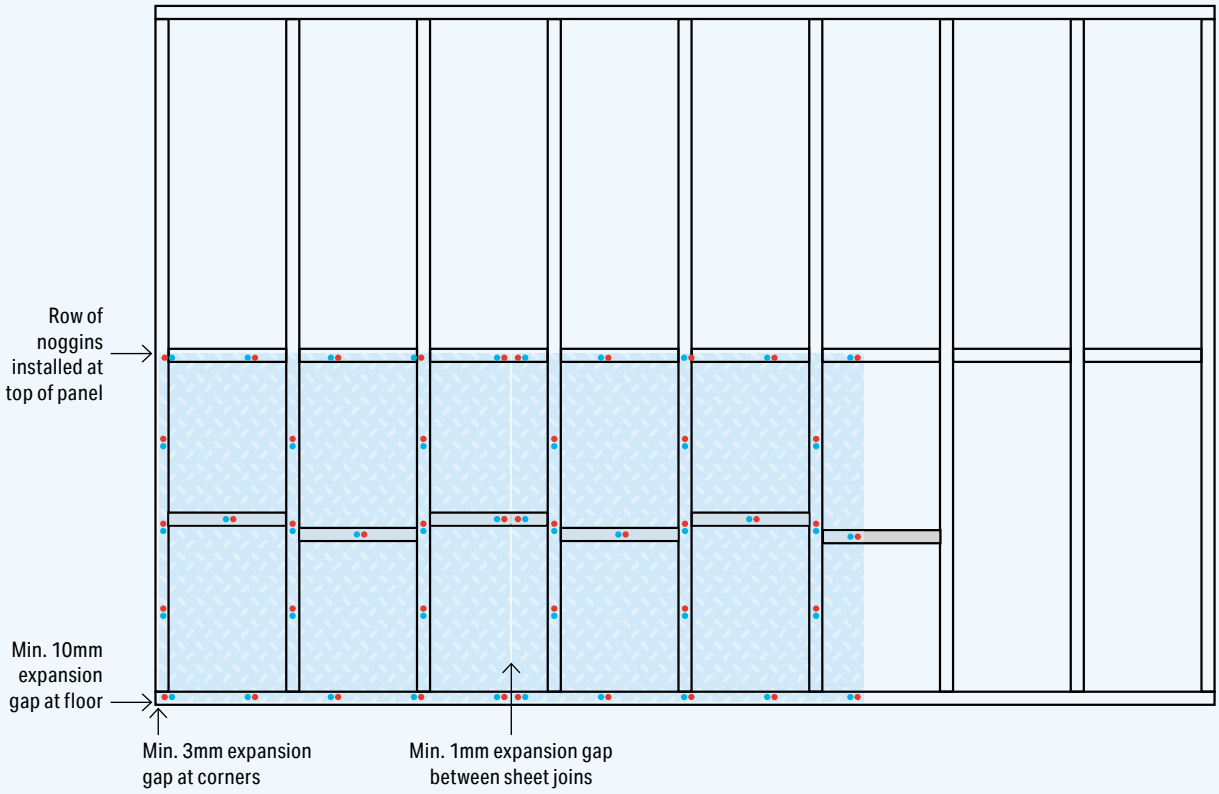


Diagram Legend STRUCTApanel Glue Glue Fixings

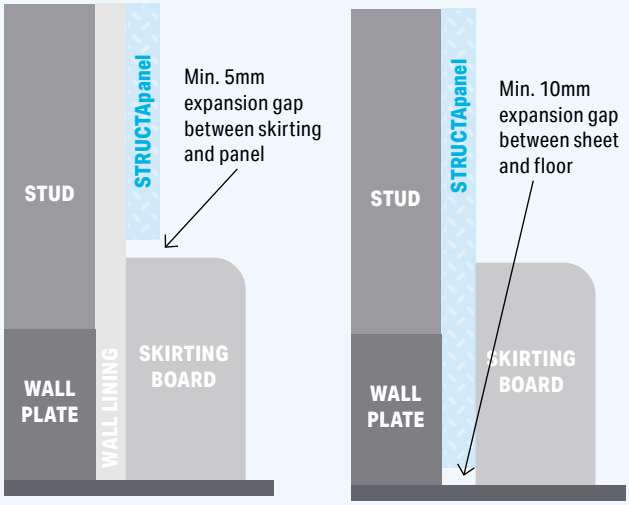
Installation of Partial Height Panels

Figure 7



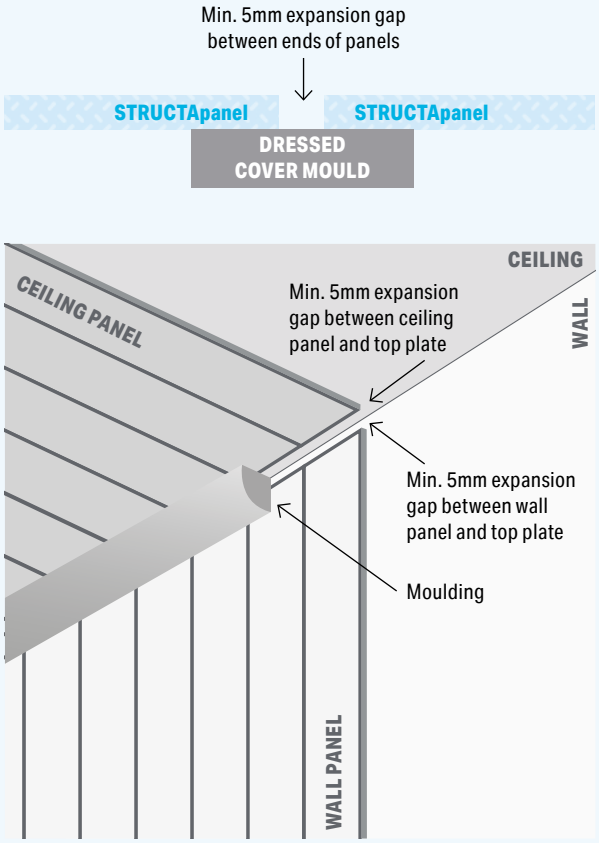
Installation of Mouldings, Cornices, Skirtings & Architraves

Figure 8



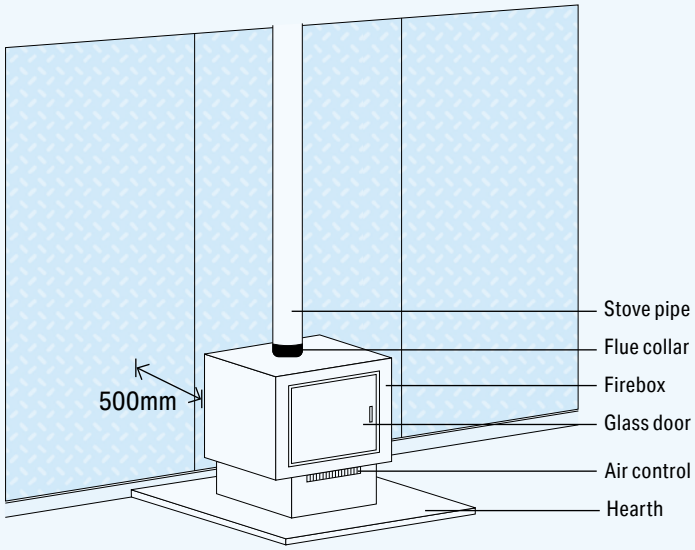
Installing Panels End to End

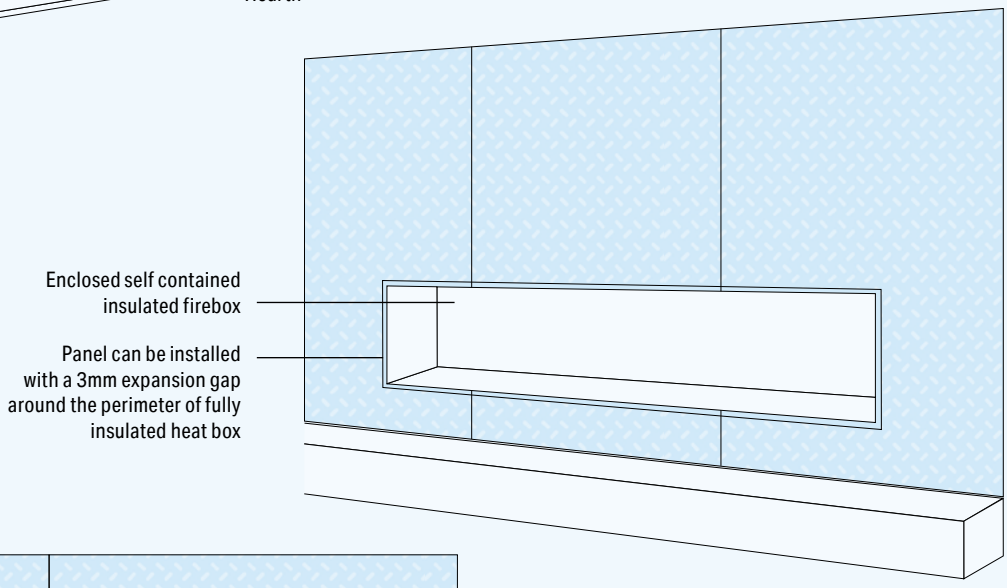
Figure 9

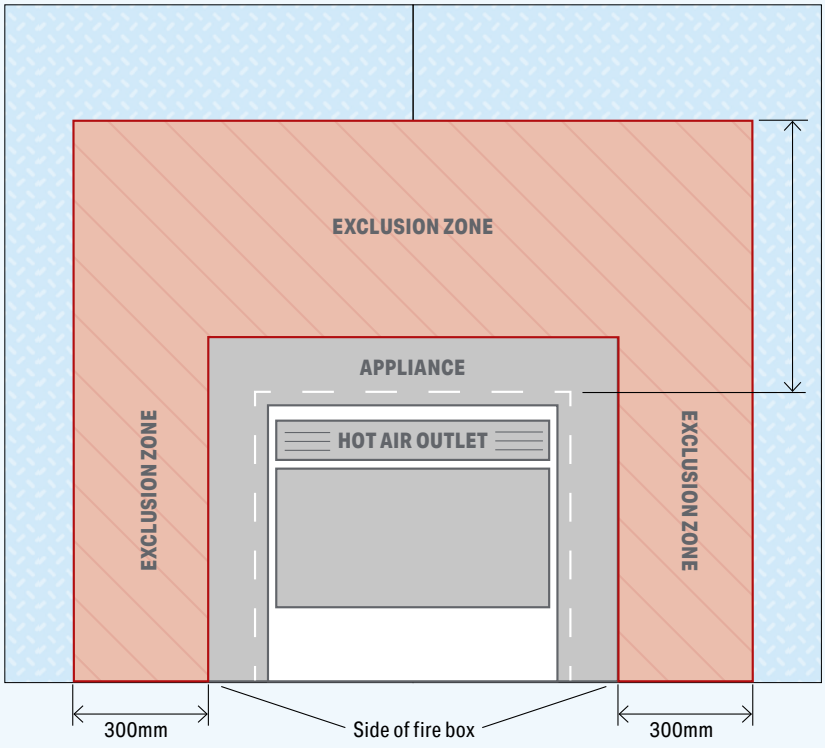


Installing around Fireplaces and Heat Sources

Figure 10



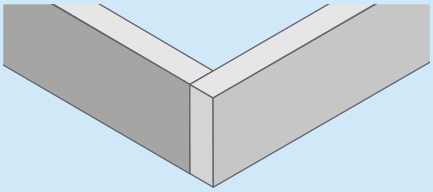




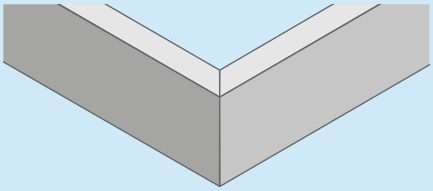
Cornice, Mouldings, Skirting and Architrave Ideas

Figure 11

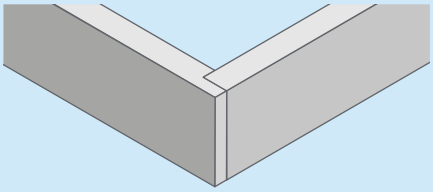
Skirting



Butt

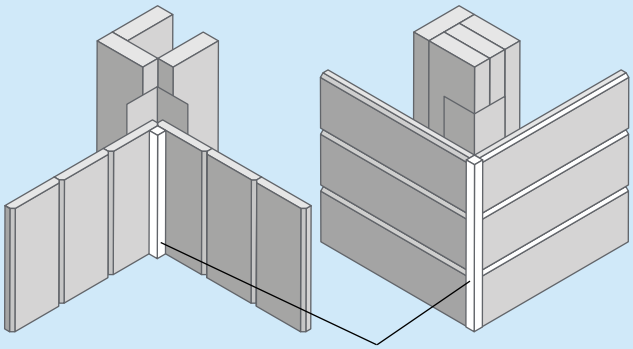


Mitre

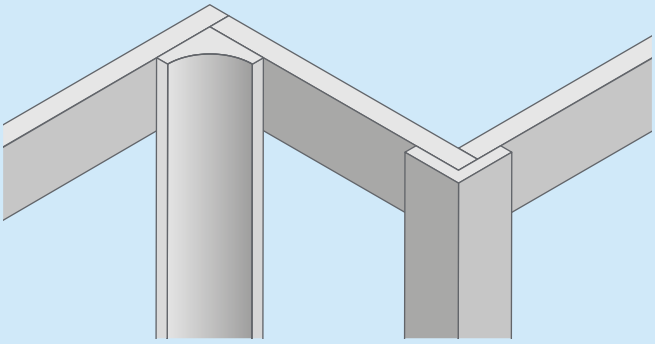


Rebated

Mouldings

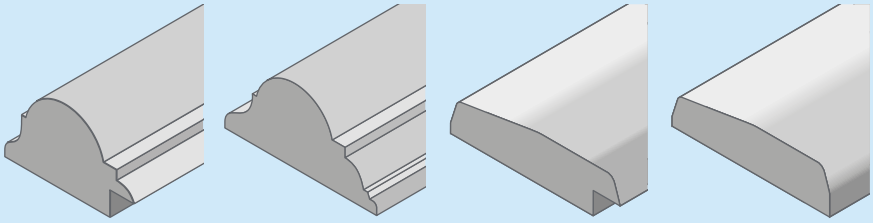


Internal and external corners using DAR Stops

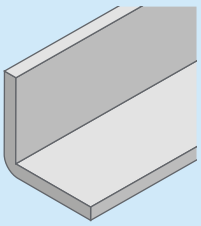


Internal and external corner moulding

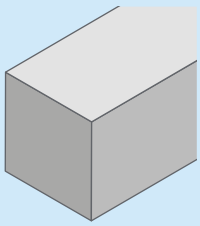
Below are some examples of product found in your local Reseller that may compliment and provide options in finishing off your panel project.



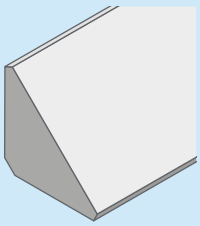
Timber Mouldings



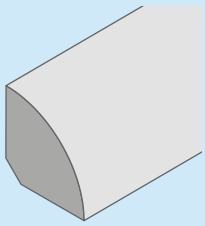
External Corner



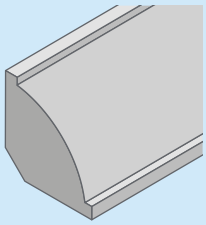
DAR Stop



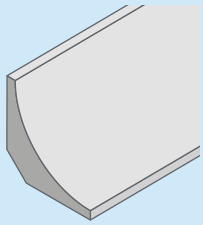
Tri-Quad Corner Moulding



Quad Corner Moulding

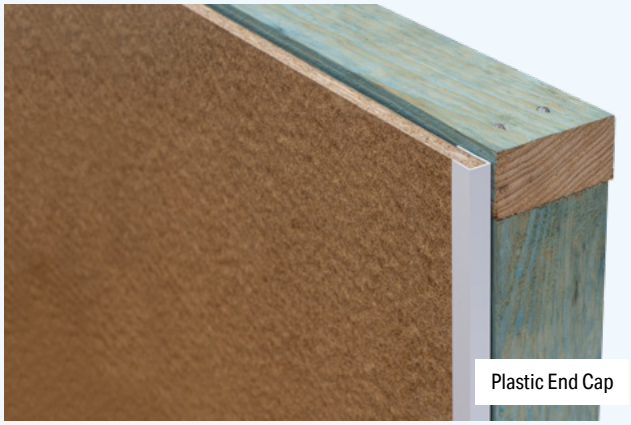


Ovolo Corner Moulding



Scotia Corner Moulding

Joining Options

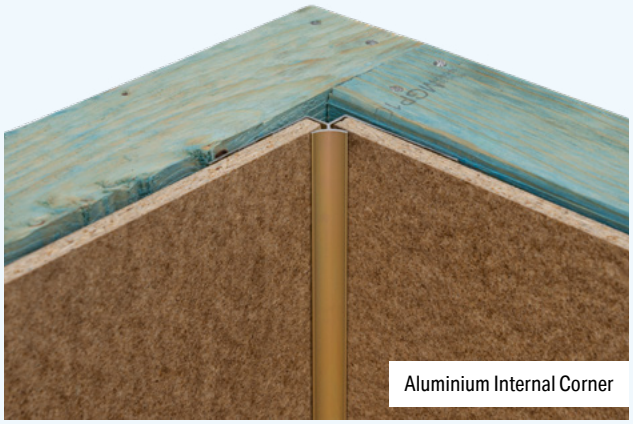


Plastic End Cap

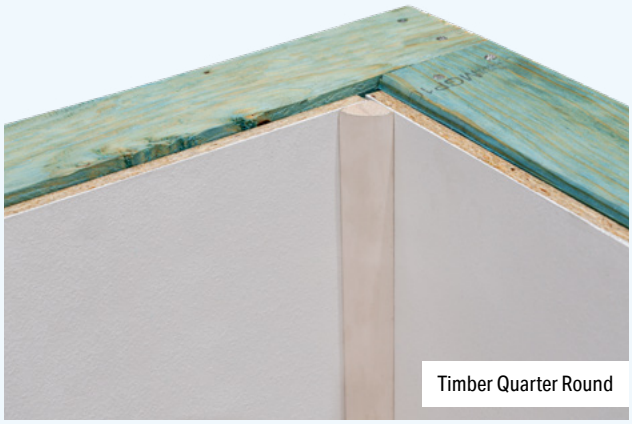
Timber Cover Strip

Plastic Shadowline Joiner

Plastic H Mould



Aluminium Internal Corner



Timber Quarter Round

Timber Cover Strip

Timber Tri Quad Cover Strip

Bracing Installation

Key Points

- STRUCTApanel is termite treated
- Formaldehyde emission meets the E1 general purpose requirement
- PEFC Certified
- Complies with BCA
- Durable to weather conditions
- STRUCTApanel complies with Australian Standards AS 1720.1 and AS 1684, parts 2 and 3
- Made in Australia from Plantation Radiata Pine for Australian houses and conditions
- Maximum 7.2kN/m racking resistance

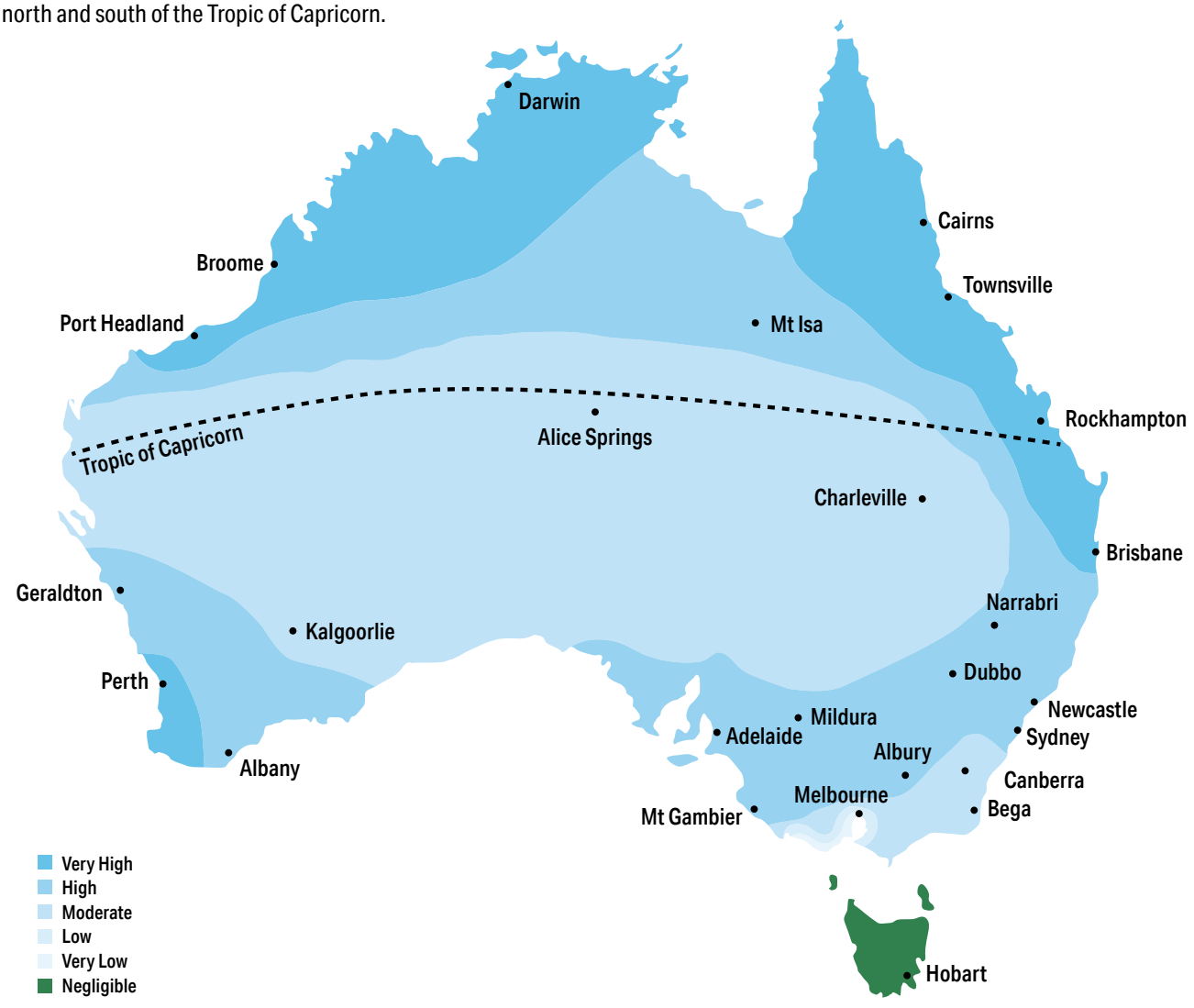
Storage and Handling

If STRUCTApanel is being used as an internal wall lining then the product should be kept dry at all times and not stored outside.

STRUCTApanel should be allowed to acclimatise for 48 hours prior to installing. Minor movement can be expected in both vertical and horizontal sections of the board as it reaches its final resting moisture content (or EMC of the Site).

Termite Risk Management

STRUCTApanel is available with H2 treatment. It is resistant to termites both north and south of the Tropic of Capricorn.



Fastener Recommendation

Racking resistance capacities of the STRUCTApanel systems in this guide have been tested using 38mm x 2.8 dia flat head galvanised nails for 9mm, and 40mm x 2.8 dia flat head galvanised nails for 12mm. Power driven nails, with equivalent or better characteristic strengths can be substituted, as detailed in AS 1684.

For 9mm, 38mm long (1.59x1.35mm) BeA staples can be used, the spacings for staples are two thirds (i.e. fastener spacing multiplied by 0.66) those shown for nails or screws.

A minimum 2mm expansion gap must be allowed around the full perimeter of each panel and at any butt joint between STRUCTApanels to allow for hygroscopic movement.

Fastners with the equivalent dimensions, head size and shape, shank diameter and length to the fixing mentioned above are deemed acceptable.

Racking Performance

STRUCTApanel is certified to achieve racking strengths as indicated in the table below when installed.

Bracing designed using timber framing from joint group JD5. No reduction factors need to be applied.

If outside AS 1684-2010, a suitable qualified professional engineer should be consulted to determine the correct wind speed from AS 4055-2012 or directly from AS 1170.2-2006.

STRUCTApanel has been designed and independently tested and verified to AS 1684-2010.

Capacity Chart

Description	Racking Capacity kN/m	Refence to AS1684 min. panel width mm
System 1 - TYPE A		
With nominal fixings	3.4	900
System 2 - TYPE B		
With vertical M12 tie rods	6.4	900
System 3 - TYPE C		
With nominal fixings	6.0	900
System 4 - TYPE D		
With vertical M12 tie rods	7.2	900
System 5 - TYPE E		
Shortwall with coach screws	2.2	450
Shortwall with M12 tie rods	3.2	450

Cutting and Drilling

A hole 100mm x 100mm maximum within envelope of 100mm from top and vertical edges and 200mm of the bottom of the bracing panel will not significantly affect the bracing capacity. Up to 4 small circular service holes are allowable within the envelope but their centres must not be closer than 600mm.

Standard hand and power tools can be used to shape or cut STRUCTApanel. Ensure blades or cutters are sharp to ensure a clean cut is achieved. Ensure all relevant PPE equipment is worn when cutting.

The normal health and safety precautions should be taken when working with wood panel products. Machine tools should be fitted with dust extractors and work areas kept clean. If dust levels exceed Worksafe Australia standards the wearing of a dust mask (AS/NZS 1715 and AS/NZS 171) and safety glasses (AS/NZS 1337) is recommended.

Storage and work areas should be adequately ventilated.

Anchoring

Anchoring of bottom plates shall be in accordance with AS 1684 or designed in accordance with the relevant standard.

Additional fixings (cyclone rods) may be required to resist uplift forces and must be appropriately designed and installed.

Brick Ties

When used in the cavity of a brick veneer building, brick wall ties must be of the face-fixed type complying with AS 2699. The ties should be nailed through the STRUCTApanel particleboard bracing to the face of the stud.

Bracing Installation Methods

The allowable racking resistance for Systems 1 to 5, in the following pages, have been tested with bracing applied to one side only. If STRUCTApanel is applied to both sides of the wall frame, then racking resistance can be doubled provided bottom plate fixing/hold-down requirements are also doubled. Bottom plate sizing may require checking to ensure hold-down compliance. Bracing design capacities are valid for wall heights up to 2700mm. For wall heights above 2700mm refer to AS 1684 section 8.3.6.4 for applicable reduction factors, as an example the current reduction factor for a 3m bracing panel = 0.9.

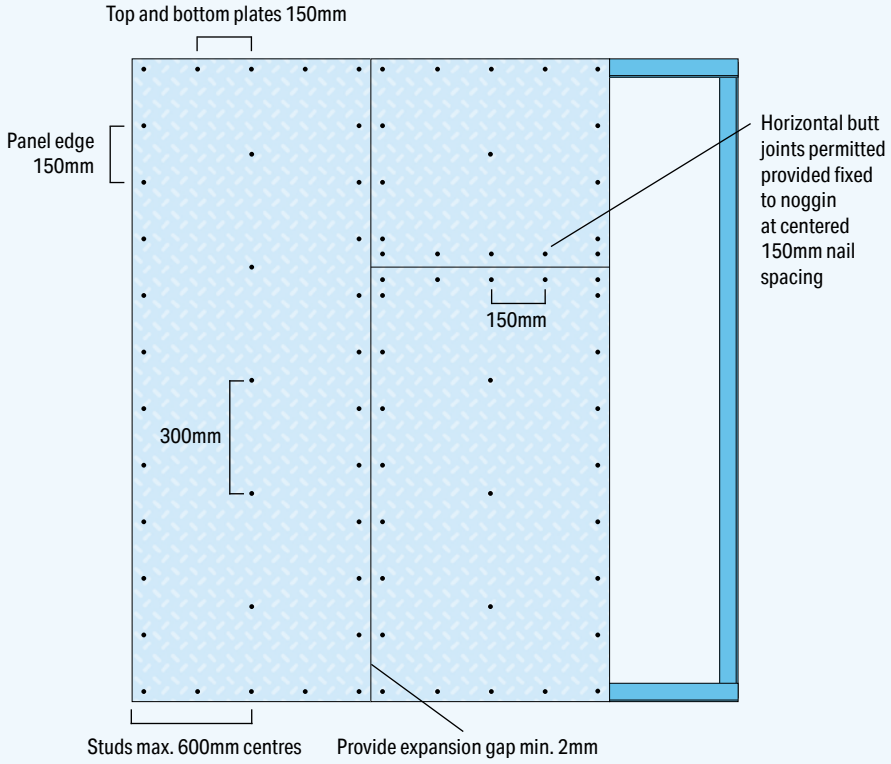
Note For all the bracing systems, STRUCTApanel has been tested using timber framing with a minimum joint strength of JD5. Therefore no reduction factors need to be calculated for JD5 framing timber. AS 1684 Section 8.3.6.5 specifies that bracing capacity is reduced by 50% for bracing widths of 600mm in length and increases linearly in capacity up to full capacity at 900mm bracing width.

No noggins are required when using full height bracing sheets, unless being used as internal bracing.

System 1: 3.4kN/m

Installation method:

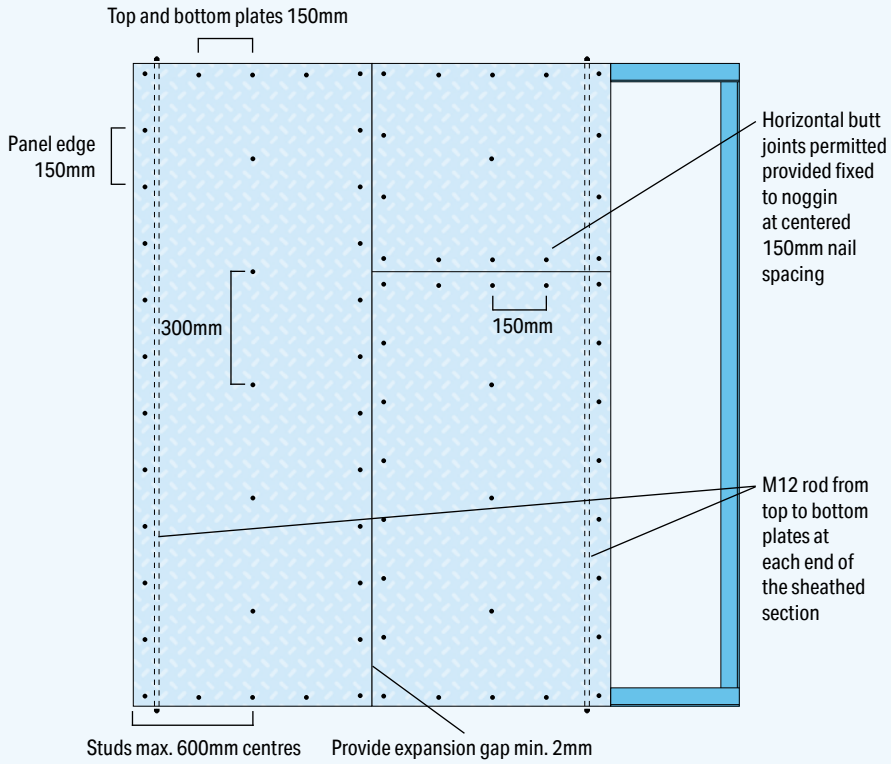
- Fixing centres:
  - 150mm for top and bottom plates
  - 150mm for vertical edges
  - 300mm for intermediate studs
- Allow 2mm expansion gap around perimeter of each panel
- Minimum bracing section 900mm
- For bracing panel length between 600mm and 900mm the capacity shall be calculated by multiplying the respective capacities by 0.5 adjusted linearly to 1.0 for 900mm
- For panel lengths less than 900mm refer to AS1684 for further detail



System 2: 6.4kN/m

Installation method:

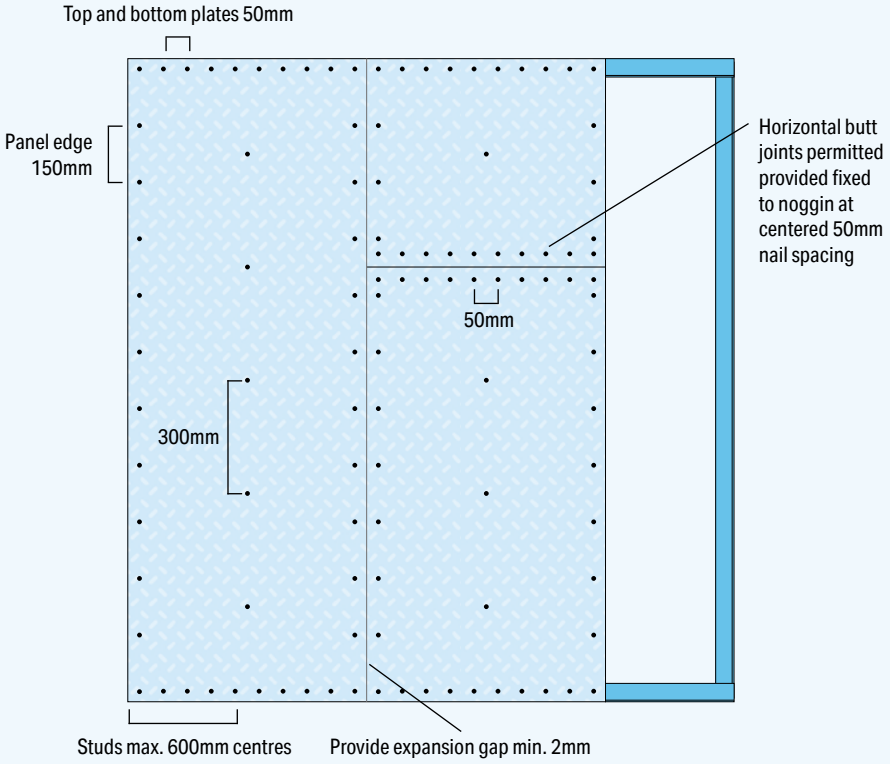
- Fixing centres:
  - 150mm for top and bottom plates
  - 150mm for vertical edges
  - 300mm for intermediate studs
- M12 tie rods from top plate to floor or slab at each end of sheathed section
- Allow 2mm expansion gap around perimeter of each panel
- Minimum bracing section 900mm
- Anchors fixing the bottom plate to the floor or slab rated to 13kN at 1200mm maximum centres



System 3: 6.0kN/m

Installation method:

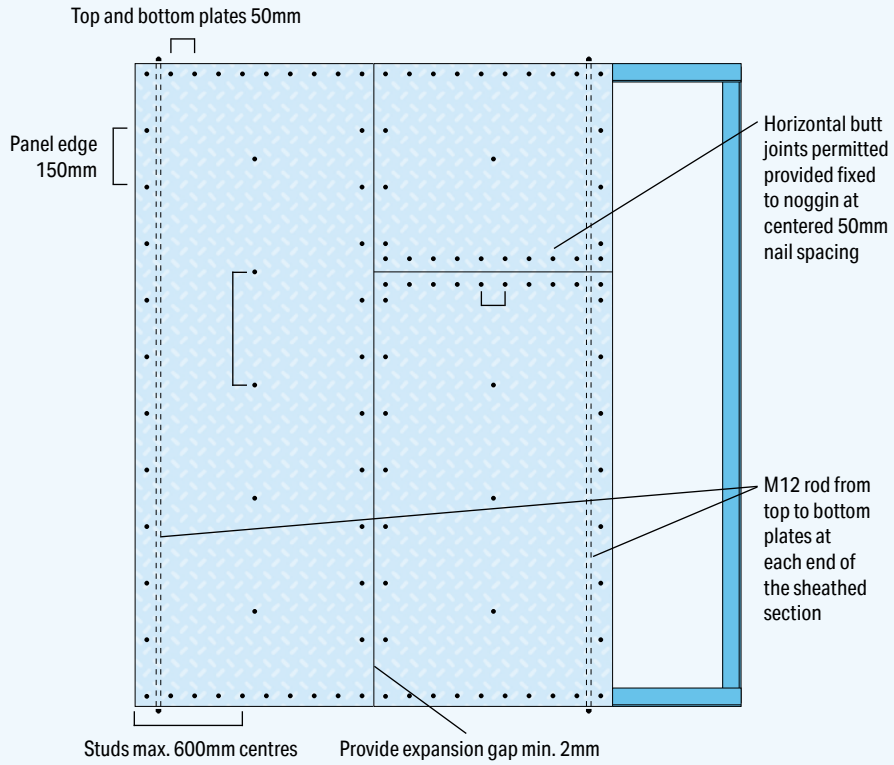
- Fixing centres:
  - 50mm for top and bottom plates
  - 150mm for vertical edges
  - 300mm for intermediate studs
- Allow 2mm expansion gap around perimeter of each panel
- Minimum bracing section 900mm
- Anchors fixing the bottom plate to the floor or slab rated to 13kN at 1200mm maximum centres



System 4: 7.2kN/m

Installation method:

- Fixing centres:
  - 50mm for top and bottom plates
  - 150mm for vertical edges
  - 300mm for intermediate studs
- M12 tie rods from top to bottom plates at each end of sheathed section
- Allow 2mm expansion gaps around perimeter of each panel
- Minimum bracing section 900mm
- Anchors fixing the bottom plate to the floor or slab rated to 13kN at 1200mm maximum centres



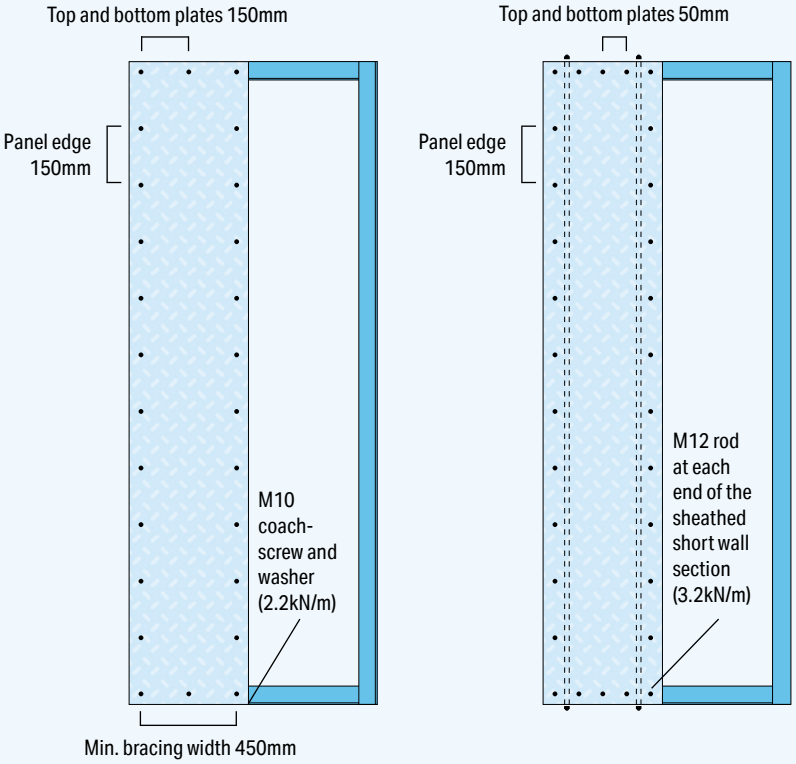
System 5: 2.2kN/m

Installation method:

- Fixing centres:
  - 150mm for top and bottom plates
  - 150mm for vertical edges
- M10 x 70mm coach screws with 50 x 50 x 3mm washers in each corner of sheathed section

Alternate installation method:

- Fixing centres:
  - 50mm for top and bottom plates
  - 150mm for vertical edges
- M12 tie rods at each end of short wall sheathed section to achieve 3.2kN/m
- Minimum bracing section 450mm
- Refer AS 1684 Section 8.3.6.5 for further details



Certification Bracing using staples

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

School of Civil Engineering

Certificate of Structural Performance

Borg Manufacturing 9mm Structapanel- square flat edge.

The design methodology and criteria for applications using the 9mm Structapanel™ panels are based upon the results of full scale testing undertaken in 2020 at the Queensland University of Technology and previous work by the Plywood Association of Australia, and have been prepared in accordance with widely recognised engineering principles and are based upon use of the following documents:

1. AS1684 – 2021 SAA National Timber Framing Code
2. AS1720.1 – 2010 SAA Timber Structures Code – Part 1 Design Methods

When installed in accordance with the manufacturer's specification using 38mm long (1.59x1.35mm) BeA staples, 9mm Structapanel™ panels will comply with the requirements of the Building Code of Australia. The certified design properties (derived from full scale testing) for walls up to 2.7m in height, constructed of timber framing of grade JD5 (MGP10) or better, (using 2400 x 900, 2400 x 1200, 2700 x 900 and 2700 x 1200 panels) are as follows, when such loads are determined in accordance with AS1170 (parts 1 - 4):

Type 1 panels: 100/100/200 – WITHOUT tie down rods: minimum racking resistance of 3.4 kN/m

- nailing pattern and nominal fixings of the bottom plate to the floor or slab are similar to Detail (g), Table 8.18, Parts 2 and 3, AS1684.

Type 2 panels: 100/100/200 – WITH M12 tie down rods: minimum racking resistance of 6.4 kN/m

- M12 tie-down rods at each end of the braced wall, with anchors rated to 13kN at 1200mm c/c maximum spacings, and
- nailing pattern similar to Method A, Detail (h), Table 8.18, Parts 2 and 3, AS1684.

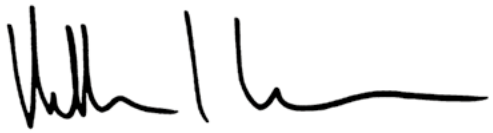
Type 3 panels: 30/100/200 – WITHOUT tie down rods: minimum racking resistance of 6.0 kN/m

- nailing pattern and anchors rated to 13kN at 1200mm maximum spacings similar to Method B, Detail (h), Table 8.18, Parts 2 and 3, AS1684.

Type 4 panels: 30/100/200–– WITH M12 tie down rods: minimum racking resistance of 7.2 kN/m

- M12 tie-down rods at each end of the braced wall, with anchors rated to 13kN at 1200mm c/c maximum spacings.

Product substitution is permitted for panel products of equivalent or lesser bracing capacity. This includes plywood (9mm F8; 7mm F11; 6mm F14; 4.5mm F27) and hardboard (4.5mm) products noted in Table 8.18 of AS 1684 – 2021 (Parts 2 and 3). 9mm Structapanel™ panels can also be used for short panels in accordance with AS1684 Section: 8.3.6.5, which specifies that the bracing capacity is reduced by 50% for walls of 600mm length, with a linear increase in capacity up to full capacity at 900mm length.



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Certification Bracing using nails or screws

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

School of Civil Engineering

Certificate of Structural Performance

Borg Manufacturing 9mm Structapanel- square flat edge.

The design methodology and criteria for applications using the 9mm Structapanel™ panels are based upon the results of full scale testing undertaken in 2020 at the Queensland University of Technology, and have been prepared in accordance with widely recognised engineering principles and are based upon use of the following documents:

1. AS1684 – 2021 SAA National Timber Framing Code
2. AS1720.1 – 2010 SAA Timber Structures Code – Part 1 Design Methods

When installed in accordance with the manufacturer's specification using 35mm long nails, 9mm Structapanel™ panels will comply with the requirements of the Building Code of Australia. The certified design properties (derived from full scale testing) for walls up to 2.7m in height, constructed of timber framing of grade JD5 (MGP10) or better, (using 2400 x 900, 2400 x 1200, 2700 x 900 and 2700 x 1200 panels) are as follows, when such loads are determined in accordance with AS1170 (parts 1 - 4):

Type 1 panels: 150/150/300 – WITHOUT tie down rods: minimum racking resistance of 3.4 kN/m

- nailing pattern and nominal fixings of the bottom plate to the floor or slab are similar to Detail (g), Table 8.18, Parts 2 and 3, AS1684.

Type 2 panels: 150/150/300 – WITH M12 tie down rods: minimum racking resistance of 6.4 kN/m

- M12 tie-down rods at each end of the braced wall, with anchors rated to 13kN at 1200mm c/c maximum spacings, and
- nailing pattern similar to Method A, Detail (h), Table 8.18, Parts 2 and 3, AS1684.

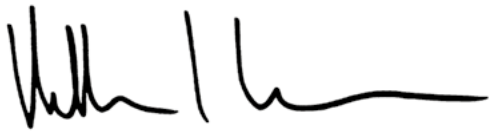
Type 3 panels: 50/150/300 – WITHOUT tie down rods: minimum racking resistance of 6.0 kN/m

- nailing pattern and anchors rated to 13kN at 1200mm maximum spacings similar to Method B, Detail (h), Table 8.18, Parts 2 and 3, AS1684.

Type 4 panels: 50/150/300–– WITH M12 tie down rods: minimum racking resistance of 7.2 kN/m

- M12 tie-down rods at each end of the braced wall, with anchors rated to 13kN at 1200mm c/c maximum spacings.

Product substitution is permitted for panel products of equivalent or lesser bracing capacity. This includes plywood (9mm F8; 7mm F11; 6mm F14; 4.5mm F27) and hardboard (4.5mm) products noted in Table 8.18 of AS 1684 – 2021 (Parts 2 and 3). 9mm Structapanel™ panels can also be used for short panels in accordance with AS1684 Section: 8.3.6.5, which specifies that the bracing capacity is reduced by 50% for walls of 600mm length, with a linear increase in capacity up to full capacity at 900mm length.



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Certification Bracing using nails and screws

Australian Government
Australian Research Council

ADVANCE TIMBERHUB

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

6 March 2024

Certificate of Structural Performance

Borg Manufacturing 12mm Structapanel H2 - square flat edge (nail & screw fasteners)

The design methodology and criteria for applications using the 12mm Structapanel™ panels are based upon the results of full scale testing undertaken in 2020 at the Queensland University of Technology, and have been prepared in accordance with widely recognised engineering principles and are based upon use of the following documents:

1. AS1684 – 2021 SAA National Timber Framing Code
2. AS1720.1 – 2010 SAA Timber Structures Code – Part 1 Design Methods

When installed in accordance with the manufacturer's specification using 40mm long * 2.8mm diameter nails or 40mm long No 4 (2.74mm dia) screws, 12mm Structapanel™ panels will comply with the requirements of the Building Code of Australia. The certified design properties (derived from full scale testing) for walls up to 2.7m in height, constructed of timber framing of grade JD5 (MGP10) or better, (using 2400 x 900, 2400 x 1200, 2700 x 900 and 2700 x 1200 panels) are as follows, when such loads are determined in accordance with AS1170 (parts 1 - 4):

Type 1 panels: 150/150/300 – WITHOUT tie down rods: minimum racking resistance of 3.4 kN/m

- nailing pattern and nominal fixings of the bottom plate to the floor or slab are similar to Detail (g), Table 8.18, Parts 2 and 3, AS1684.

Type 2 panels: 150/150/300 – WITH M12 tie down rods: minimum racking resistance of 6.4 kN/m

- M12 tie-down rods at each end of the braced wall, with anchors rated to 13kN at 1200mm c/c maximum spacings, and
- nailing pattern similar to Method A, Detail (h), Table 8.18, Parts 2 and 3, AS1684.

Type 3 panels: 50/150/300 – WITHOUT tie down rods: minimum racking resistance of 6.0 kN/m

- nailing pattern and anchors rated to 13kN at 1200mm maximum spacings similar to Method B, Detail (h), Table 8.18, Parts 2 and 3, AS1684.

Type 4 panels: 50/150/300— WITH M12 tie down rods: minimum racking resistance of 7.2 kN/m

- M12 tie-down rods at each end of the braced wall, with anchors rated to 13kN at 1200mm c/c maximum spacings.

Product substitution is permitted for panel products of equivalent or lesser bracing capacity. This includes plywood (9mm F8; 7mm F11; 6mm F14; 4.5mm F27) and hardboard (4.5mm) products noted in Table 8.18 of AS 1684 – 2021 (Parts 2 and 3). 9mm Structapanel™ panels can also be used for short panels in accordance with AS1684 Section: 8.3.6.5, which specifies that the bracing capacity is reduced by 50% for walls of 600mm length, with a linear increase in capacity up to full capacity at 900mm length.

Yours sincerely

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Certification Bracing using nails, screws and glue

Australian Government
Australian Research Council

ADVANCE TIMBERHUB

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

6 March 2024

Certificate of Structural Performance

Borg Manufacturing 12mm Structapanel H2 - square flat edge (Brad nail fasteners).

The design methodology and criteria for applications using the 12mm Structapanel™ panels are based upon the results of full scale testing undertaken in 2020 at the Queensland University of Technology, and have been prepared in accordance with widely recognised engineering principles and are based upon use of the following documents:

1. AS1684 – 2021 SAA National Timber Framing Code
2. AS1720.1 – 2010 SAA Timber Structures Code – Part 1 Design Methods

When installed in accordance with the manufacturer's specification using 38mm long Brad nails, 12mm Structapanel™ panels will comply with the requirements of the Building Code of Australia. The certified design properties (derived from full scale testing) for walls up to 2.7m in height, constructed of timber framing of grade JD5 (MGP10) or better, (using 2400 x 900, 2400 x 1200, 2700 x 900 and 2700 x 1200 panels) are as follows, when such loads are determined in accordance with AS1170 (parts 1 - 4):

Type 1 panels: Sheathing on one side only: minimum racking resistance of 2.0 kN/m

- 1.6 (ϕ) x 38mm (l) brad nails at 450mm spacings, dobs of construction adhesive at 450mm spacings and nominal fixings of the bottom plate to the floor or slab.

Type 2 panels: Sheathing on both sides: minimum racking resistance of 3.4 kN/m

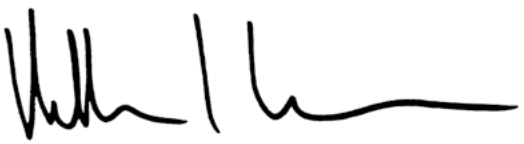
- 1.6 (ϕ) x 38mm (l) brad nails at 450mm spacings, dobs of construction adhesive at 450mm spacings and nominal fixings of the bottom plate to the floor or slab.

Type 3 panels: Sheathing on both sides: minimum racking resistance of 4.0 kN/m

- 1.6 (ϕ) x 38mm (l) brad nails at 450mm spacings, dobs of construction adhesive at 450mm spacings and a 13 kN capacity connection at each end and intermediately at max 1200mm spacings through the bottom plate into the floor or slab.

Product substitution is permitted for panel products of equivalent or lesser bracing capacity. This includes plywood (9mm F8; 7mm F11; 6mm F14; 4.5mm F27) and hardboard (4.5mm) products noted in Table 8.18 of AS 1684 – 2021 (Parts 2 and 3). 9mm Structapanel™ panels can also be used for short panels in accordance with AS1684 Section: 8.3.6.5, which specifies that the bracing capacity is reduced by 50% for walls of 600mm length, with a linear increase in capacity up to full capacity at 900mm length.

Yours sincerely



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Certification Bracing using nails and screws

Australian Government
Australian Research Council

ADVANCE TIMBERHUB

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

6 March 2024

Certificate of Structural Performance

Borg Manufacturing 12mm Structapanel H2 - grooved (nail & screw fasteners)

The design methodology and criteria for applications using the 12mm Structapanel™ panels are based upon the results of full scale testing undertaken in 2020 at the Queensland University of Technology, and have been prepared in accordance with widely recognised engineering principles and are based upon use of the following documents:

1. AS1684 – 2021 SAA National Timber Framing Code
2. AS1720.1 – 2010 SAA Timber Structures Code – Part 1 Design Methods

When installed in accordance with the manufacturer's specification using 40mm long * 2.8mm diameter nails or 40mm long No 4 (2.74mm dia) screws, 12mm Structapanel™ panels will comply with the requirements of the Building Code of Australia. The certified design properties (derived from full scale testing) for walls up to 2.7m in height, constructed of timber framing of grade JD5 (MGP10) or better, (using 2400 x 900, 2400 x 1200, 2700 x 900 and 2700 x 1200 panels) are as follows, when such loads are determined in accordance with AS1170 (parts 1 - 4):

Type 1 panels: 150/150/300 – WITHOUT tie down rods: minimum racking resistance of 3.4 kN/m

- nailing pattern and nominal fixings of the bottom plate to the floor or slab are similar to Detail (g), Table 8.18, Parts 2 and 3, AS1684.

Type 2 panels: 150/150/300 – WITH M12 tie down rods: minimum racking resistance of 6.4 kN/m

- M12 tie-down rods at each end of the braced wall, with anchors rated to 13kN at 1200mm c/c maximum spacings, and
- nailing pattern similar to Method A, Detail (h), Table 8.18, Parts 2 and 3, AS1684.

Type 3 panels: 50/150/300 – WITHOUT tie down rods: minimum racking resistance of 6.0 kN/m

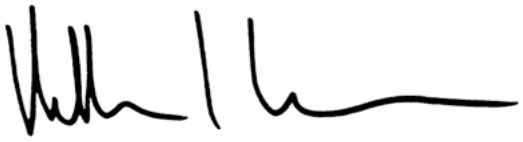
- nailing pattern and anchors rated to 13kN at 1200mm maximum spacings similar to Method B, Detail (h), Table 8.18, Parts 2 and 3, AS1684.

Type 4 panels: 50/150/300 – WITH M12 tie down rods: minimum racking resistance of 7.2 kN/m

- M12 tie-down rods at each end of the braced wall, with anchors rated to 13kN at 1200mm c/c maximum spacings.

Product substitution is permitted for panel products of equivalent or lesser bracing capacity. This includes plywood (9mm F8; 7mm F11; 6mm F14; 4.5mm F27) and hardboard (4.5mm) products noted in Table 8.18 of AS 1684 – 2021 (Parts 2 and 3). 9mm Structapanel™ panels can also be used for short panels in accordance with AS1684 Section: 8.3.6.5, which specifies that the bracing capacity is reduced by 50% for walls of 600mm length, with a linear increase in capacity up to full capacity at 900mm length.

Yours sincerely



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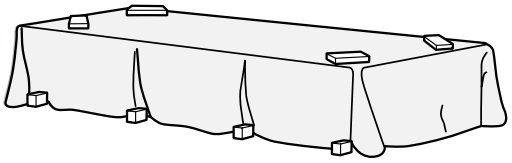
Temporary Hoarding Panelling

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

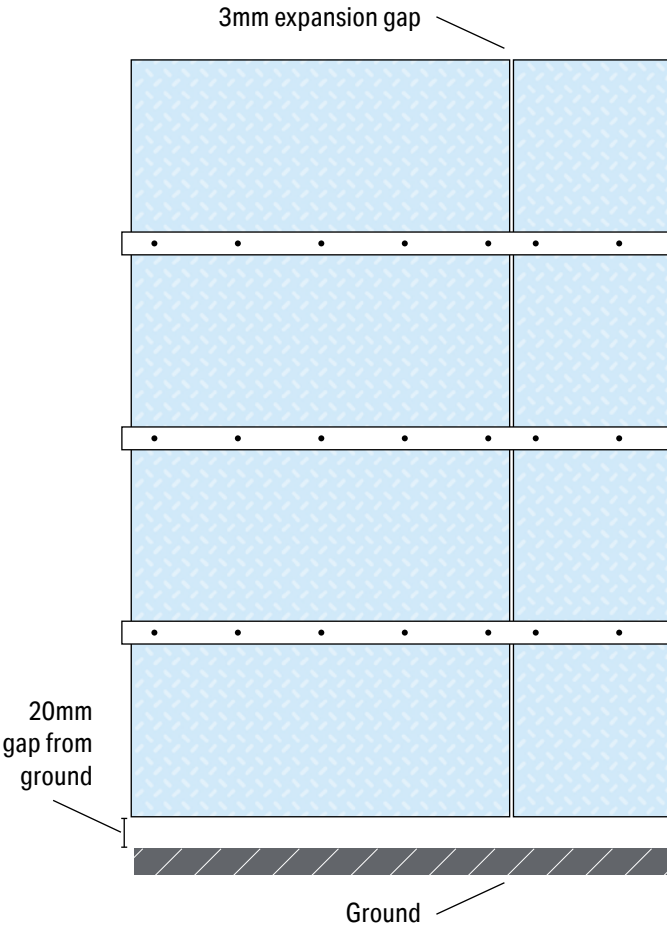
- STRUCTApanel should be stored dry before fixing onto hoarding framework
- When storing outside, ensure packs are kept clear off the ground. Cover with waterproof sheeting laid on evenly spaced timber battens so that air circulates freely between the waterproof cover and the product



- STRUCTApanel 12mm should be fixed to a min. of 3 rails, top / middle and bottom of sheet
- STRUCTApanel 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 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

Smooth 12mm

Black 12mm



Timber Flooring Underlay

Laying over concrete and under timber strip flooring

Note STRUCTApanel is structurally certified for bracing only

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 levelling 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)

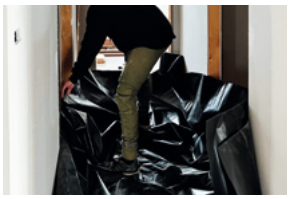



2. Acclimatisation

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

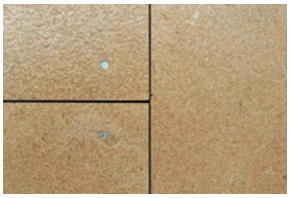
3. Laying a Moisture Vapor Barrier Underneath

- 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



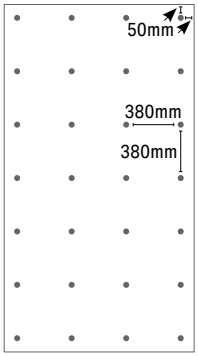
4. Installing STRUCTApanel 12mm

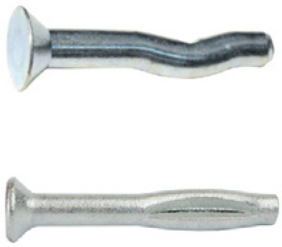
- Lay in a brick shaped pattern
- Expansion gaps:
  - 10mm around the outside of perimeter walls or fixtures,
  - 3-5mm between the edges of each sheet
- Max. expansion gaps (5mm) can be used in high humidity conditions
- Min. expansion gaps (3mm) can be used in low humidity conditions




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 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

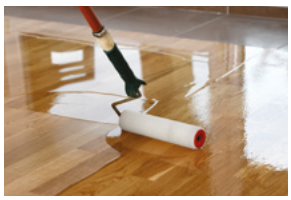
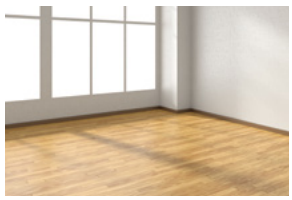




6. Laying of Timber Strip Flooring

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


7. Sealing of Timber Strip Flooring

Australian PANELS

FLOORING

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PANELLING

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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.

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