

MaxiWall Low-Rise Residential Party Wall System



Technical Guide

BigRiver

Building Australia for over 100 years

MAXIWALL

Our Story

With over 110 years in the timber industry, Big River is now one of Australia's largest timber manufacturing and marketing businesses, with a diverse business servicing all Australian States and many international projects.

Big River owns and manages sales and distribution outlets in Sydney, Brisbane, Townsville, Adelaide, Melbourne, Sunshine Coast and Perth, servicing the construction and building industry as well as the manufacturing sector with a diverse range of timber products and other associated construction materials such as Maxiwall – a strong yet lightweight walling panel made from Autoclaved Aerated Concrete (AAC).and reinforced with corrosion protected steel mesh.

Maxiwall is sourced from world class production facilities using German technology and automated processes to ensure each Maxiwall panel is of optimum quality and consistency.

Big River provides customers with the security of a full support network, and technical expertise at every stage of the product lifecycle. This is the guarantee of quality and service that Big River has based its 100 years of success on.

Strategic intent

Our focus is on developing products and systems that get the job done, embracing the idea of customer needs, satisfaction and price sensibility.

We are committed to delivering new and innovative building systems that provide a more comfortable and sustainable “home living” experience.

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This technical guide contains design, installation and technical information intended for use as a general guide by qualified design and building construction professionals including licensed builders in the construction of party walls for low-rise multi-residential buildings.

This document does not substitute the necessary knowledge, experience and judgment of qualified design and building construction professionals. They should be consulted to ensure that the specific building systems, its components and installations are suitable for the projects and conform to building codes under Australian laws.

Big River is not responsible for ensuring the correctness or suitability of the systems or compliance with federal, state or local laws and regulations, including building, environmental and other codes.

2.0 MaxiWall Panel

The Maxiwall Autoclaved Aerated Concrete (AAC) wall panel is a durable, lightweight, steel reinforced innovative building panel that offers excellent benefits as an external wall system for low-rise residential buildings. Some of the benefits include:

- Environmentally friendly – no toxic gases or hazardous waste
- Quick installation – reduced time and labour costs
- Fire resistant – helps prevent spread of fire
- Energy efficient – high thermal mass and thermal isolation
- Excellent soundproofing – reduces noise transmission significantly
- Durability – not affected by harsh climatic conditions

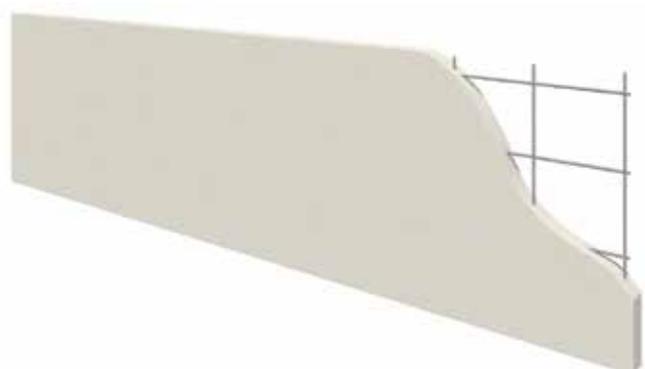
Maxiwall wall panels are manufactured using the latest state-of-the-art German production technology and plant. Made from cement, fine aggregates, lime and water, an expansion agent is added to the mixed slurry which causes it to rise like dough containing closed air pockets that results in its lightweight and energy efficient benefits. The material is molded and wire-cut into dimensioned panels and cooked with steam (autoclaving). AAC has been used in Europe for more than 70 years and continues to be widely accepted in Australia since its introduction over 20 years ago.

Building homes with Maxiwall wall panels will deliver a quieter, cooler and more comfortable “home living” experience. With four times greater thermal resistance than standard house bricks, the amount of energy required to heat or cool is greatly reduced thus resulting in cost savings to homeowners.

Maxiwall wall panels are lighter than other concrete and masonry products allowing for faster installation, easier handling and more flexible solutions to external wall system requirements.

Maxiwall wall panels are available in the following dimensions and steel reinforcement.

Thickness:	75mm
Width:	600mm
Length:	1350mm to 3300mm
Reinforcement:	Single steel mesh, centrally located
Steel wire:	4 x 5mm longitudinal and transverse bars



3.0 Advantage & Benefit



Strong & Durable

MAXIWALL steel reinforced panels have that solid feel of traditional bricks. With an approved external render finish MAXIWALL is not affected by our harsh Australian climatic conditions and will not degrade under normal conditions.



Cost Effective

MAXIWALL lightweight panels are easy to handle on-site with standard construction tools and quick to build with resulting in lower labour costs.



Fire Resistant

MAXIWALL is manufactured from aerated concrete and is non-combustible and therefore suitable for fire-rated applications such as boundary and party walls in residential and commercial applications.



Safe

MAXIWALL does not contain any toxic substances or odours, and will not harbour or encourage vermin.



Energy Efficient

MAXIWALL has a closed aerated structure which gives it superior thermal insulation properties compared to concrete or brick veneer. MAXIWALL is therefore a smarter choice for lower heating and cooling energy consumption.



Superior Acoustics

MAXIWALL also has superior soundproofing and acoustic insulation properties.



Sustainable

MAXIWALL is a cleaner, greener and more sustainable choice. On a volume comparison, MAXIWALL has manufacturing, embodied energy and greenhouse gas emission impacts significantly less than those of concrete and bricks.



Proven & Backed By Big River

AAC was invented in Sweden over 70 years ago and is widely used in building throughout Europe as well as other regions in the world. Its popularity amongst architects, builders and homeowners in Australia has been growing significantly over the past 20 years.

MAXIWALL is now available and supported in Australia through the established national sales and distribution network of the Big River Group

4.0 MaxiWall Party Wall System

The MaxiWall party wall system is designed for the construction of load bearing separating walls between adjoining dwellings in low-rise residential buildings such as townhouses, terraces and apartments.

The system comprises of 75mm thick MaxiWall AAC wall panels embedded with reinforcing corrosion protected steel mesh in longitudinal and transverse directions, installed in between and fixed to load-bearing structural frames to form the separating wall system.

Easy cutting makes on site adjustments of the MaxiWall panel fast and adaptable. 600mm wide panels can be procured in lengths of 1350, 1800, 2400, 2550, 2700, 2850 and 3000mm.

The MaxiWall party wall system has an advantage over other wall systems as it has lighter loads on structures and is cost effective when compared with traditional masonry construction. It also offers the benefits of soundproofing and fire protection. MaxiWall wall panels can also be used as internal non-load bearing separating, shaft and partition wall, external walls and for high-rise.

5.0 Design Consideration

The MaxiWall party wall is an effective and economical construction material. To capitalise on the product benefits and architectural features the following considerations are important:

- Ascertain the following site requirements:
 - » Wind loads
 - » Soil type and movement
 - » Fire Resistance Level (FRL)
 - » Energy Efficiency (R-Value)
 - » Sound insulation performance (Rw+Ctr values)
- Select the appropriate system configuration outlined in Table 1 that meets with the site requirements.
- Determine the wall frame spacing, quantity of battens, screw fixing and cantilever distance.
- Ensure the Project Engineer approves the completed detailed design documentation as complying with NCC requirements.
- Stud frames are load bearing elements and must be designed and constructed in accordance with the relevant standard such as AS1684-2010 for timber and AS 4600-2005 or NASH for light gauge steel.
- The MaxiWall wall panel is non-load bearing and is only required to resist self-weight and out of plane internal wind pressure.

The design considerations and installation details shown in this manual are for the construction of internal load bearing party wall systems using MaxiWall non-load bearing wall panels.

When designed and specified in accordance with the technical information contained in this manual, the MaxiWall party wall system for low-rise residential buildings shall be deemed to satisfy the requirements of the National Construction Code – BCA Volume 2 for Class 1 Buildings.

The performance requirements that are relevant to the party wall systems against the NCC-BCA nominated requirements are: Structural Performance - P2.1.1, Fire Resistance – P2.3.1 and Acoustic Performance – P2.4.6. The NCC is a performance based document available in two volumes: Volume 1 – Class 2 to Class 9 Buildings and Volume 2 – Class 1 and 10 Buildings (Housing Provisions). It is a uniform set of technical provisions used for the design and construction of buildings and other structures in Australia.

The MaxiWall wall panel has been issued with CodeMark Certificate of Conformity. This certification provides a nationally and internationally accepted process for products assessment for compliance.

6.0 System Configuration

The MaxiWall party wall system can be constructed in several configurations. This include:

- Using single or double wall panels;
- Installing the wall panels vertical throughout or vertical extended (majority of panels laid vertical with a single horizontal panel at either the base or the top of each floor level to extend the overall height) and
- Fixing system with either steel tophat battens or aluminium angle brackets. The party wall system configuration identification is indicated below and in Table 1.

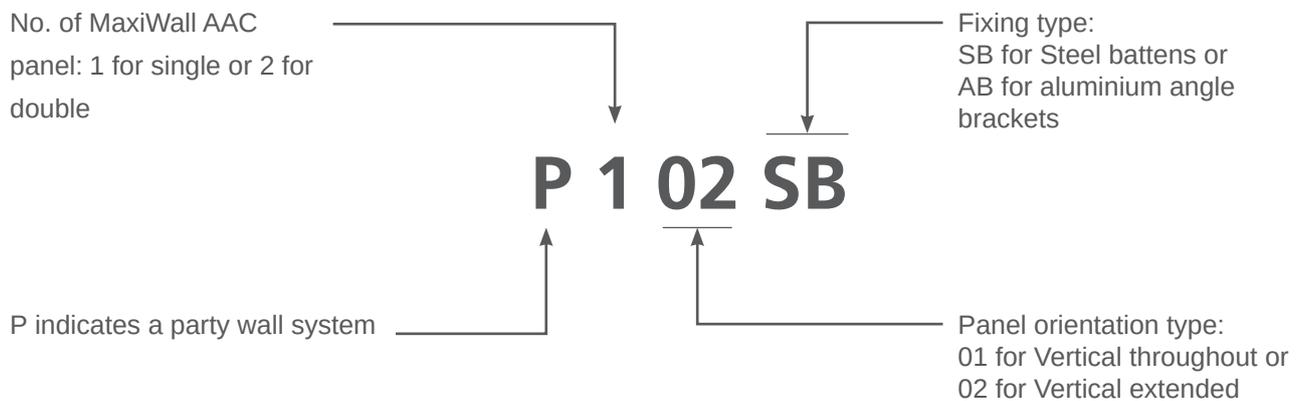


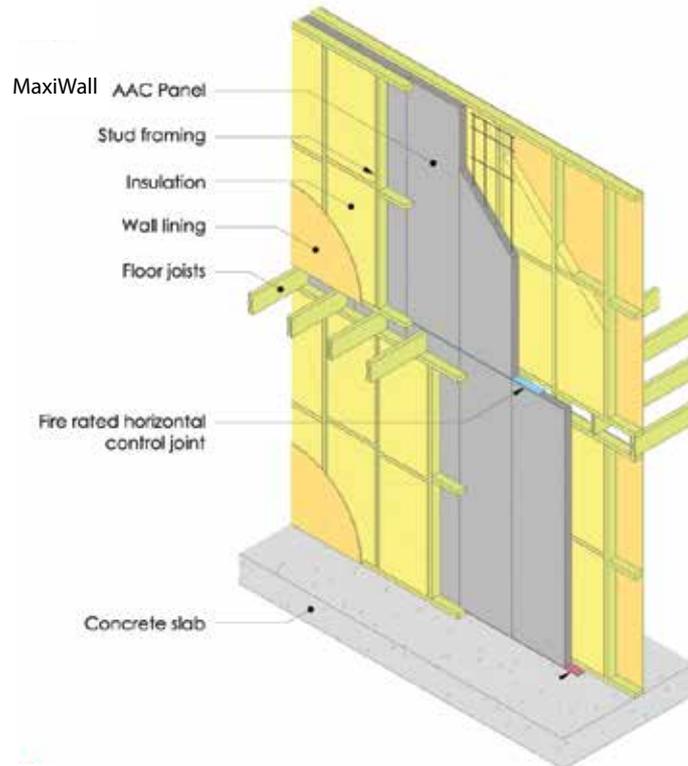
Table 1. - System Configuration

System Type	Number of Panels	Panel Installation	Fixing System
P101SB	Single	Vertical Throughout	Steel Batten
P101AB	Single	Vertical Throughout	Aluminium angle bracket
P102SB*	Single	Vertical Extended	Steel Batten
P102AB*	Single	Vertical Extended	Aluminium angle bracket
P201SB	Double	Vertical Throughout	Steel Batten
P201AB	Double	Vertical Throughout	Aluminium angle bracket
P202SB	Double	Vertical Extended	Steel Batten
P202AB	Double	Vertical Extended	Aluminium angle bracket

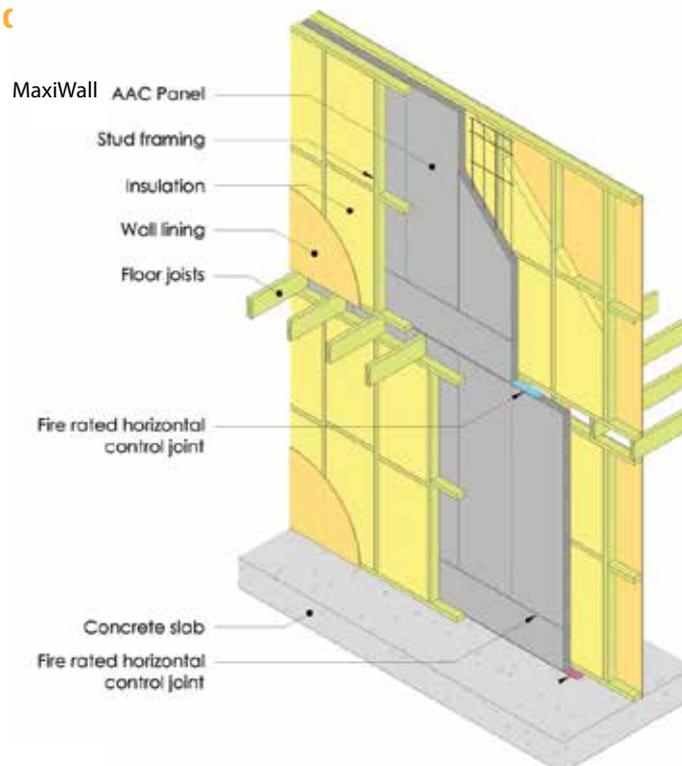
* To achieve discontinuous construction for acoustic requirement under the NCC, the horizontal panel must be installed on top of the vertical panels for each floor level.

7.0 Party Wall System Overview

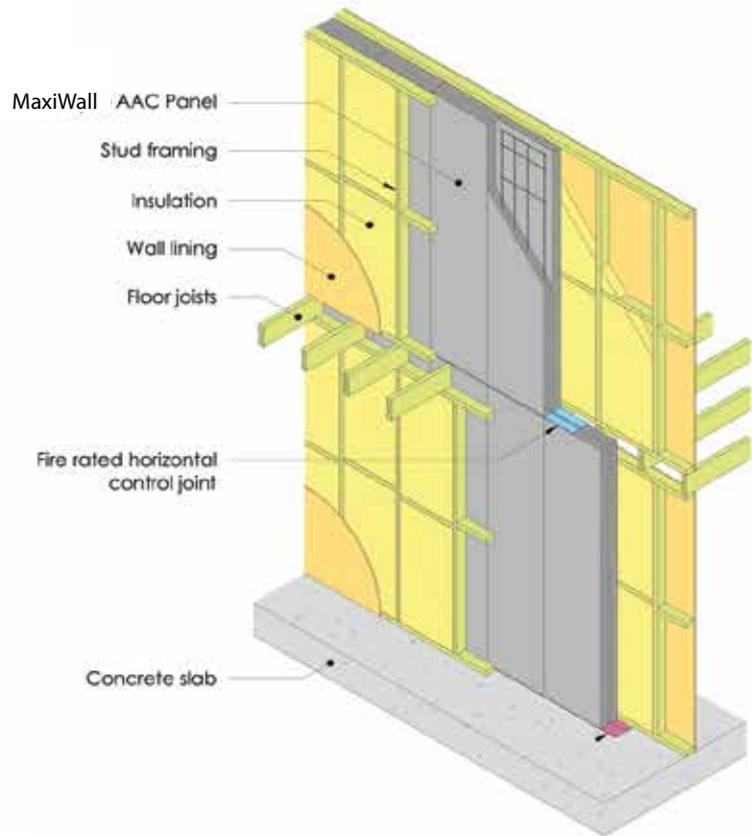
1a - Single Panel: Vertical Throughout



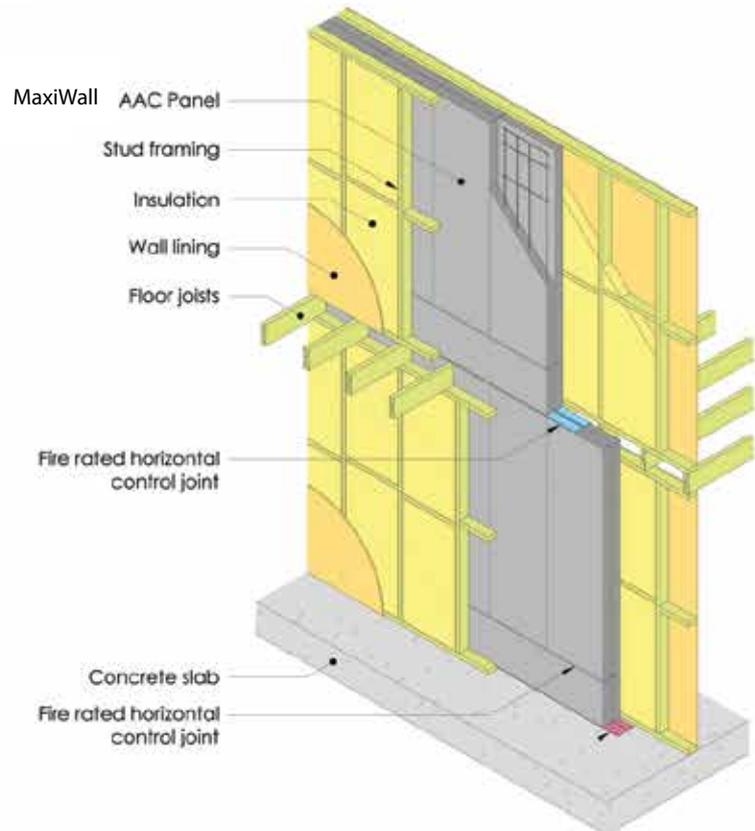
1b - Single Panel: Vertical Extenc



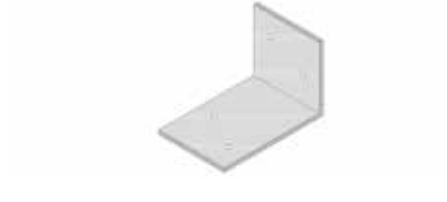
2a - Double Panel: Vertical Throughout

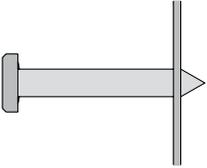


2b - Double Panel: Vertical Extended



8.0 System Component

<p>Steel Batten</p>	<p>24mm x 30mm x 0.42BMT.</p>	
<p>Steel Clip</p>	<p>90mm x 90mm x 0.9BMT Steel clip for securing steel batten to stud frame where there is limited access.</p>	
<p>Aluminium Angle Bracket</p>	<p>70mm x 40mm x 50mm x 3.0mm thick of 6063-T6 grade.</p>	
<p>Steel Base Angle</p>	<p>50mm x 50mm x 0.8BMT.</p>	
<p>Fasteners</p>	<p>14-10x90mm Type 17 hex head screw or bugle head.</p>	
	<p>12-10x35mm Type 17 hex head screw.</p>	
	<p>10-16x16mm Tek screw hex head screw.</p>	

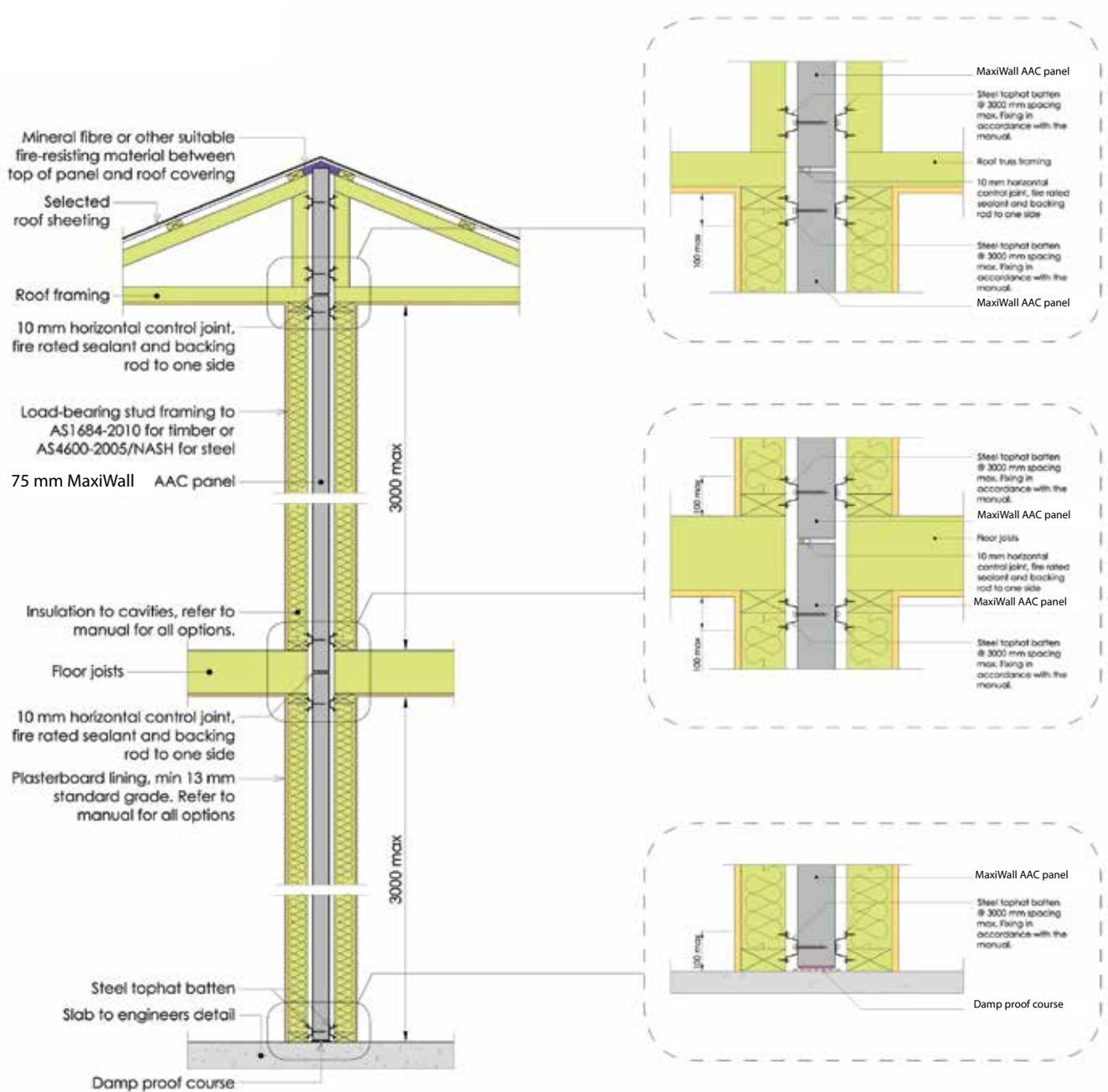
Drive Pin	<p>2.7mmØ x 25mm drive pin for fixing base angle to concrete slab.</p>	
AAC Adhesive	<p>The adhesive for MaxiWall wall panels is a factory prepared blend of carefully selected raw materials such as cement, graded aggregates and strengthening and performance additives. It is a dry mixed product used as a structural thin bed adhesive for adhering the panels in the construction of party walls.</p>	
Anti-Corrosion Paint	<p>Used for coating and protection of the exposed steel reinforcement mesh from corrosion after cutting.</p>	
Thin-Bed Mortar	<p>A thin-bed bonding mortar with high adhesion strength specifically manufactured for the placement of MaxiWall wall panels where leveling and bonding application is required for party wall construction. The mortar helps in the integrity of an airtight construction for sound insulation and fire protection at the base of the panels.</p>	
Joint Sealant	<p>Designed for sealing joints and wall penetrations that are subjected to high humidity and movements. The joint sealant provides superior integrity for fire and acoustic sealing. Even when excessively stretched sealants help maintain the joint's integrity.</p>	
Patch Compound	<p>A pre-mixed, water based jointing and patching compound used for repairing minor chips, cracks and damages particularly to the corners and edges. It can also be used as a filler compound.</p>	

Notes

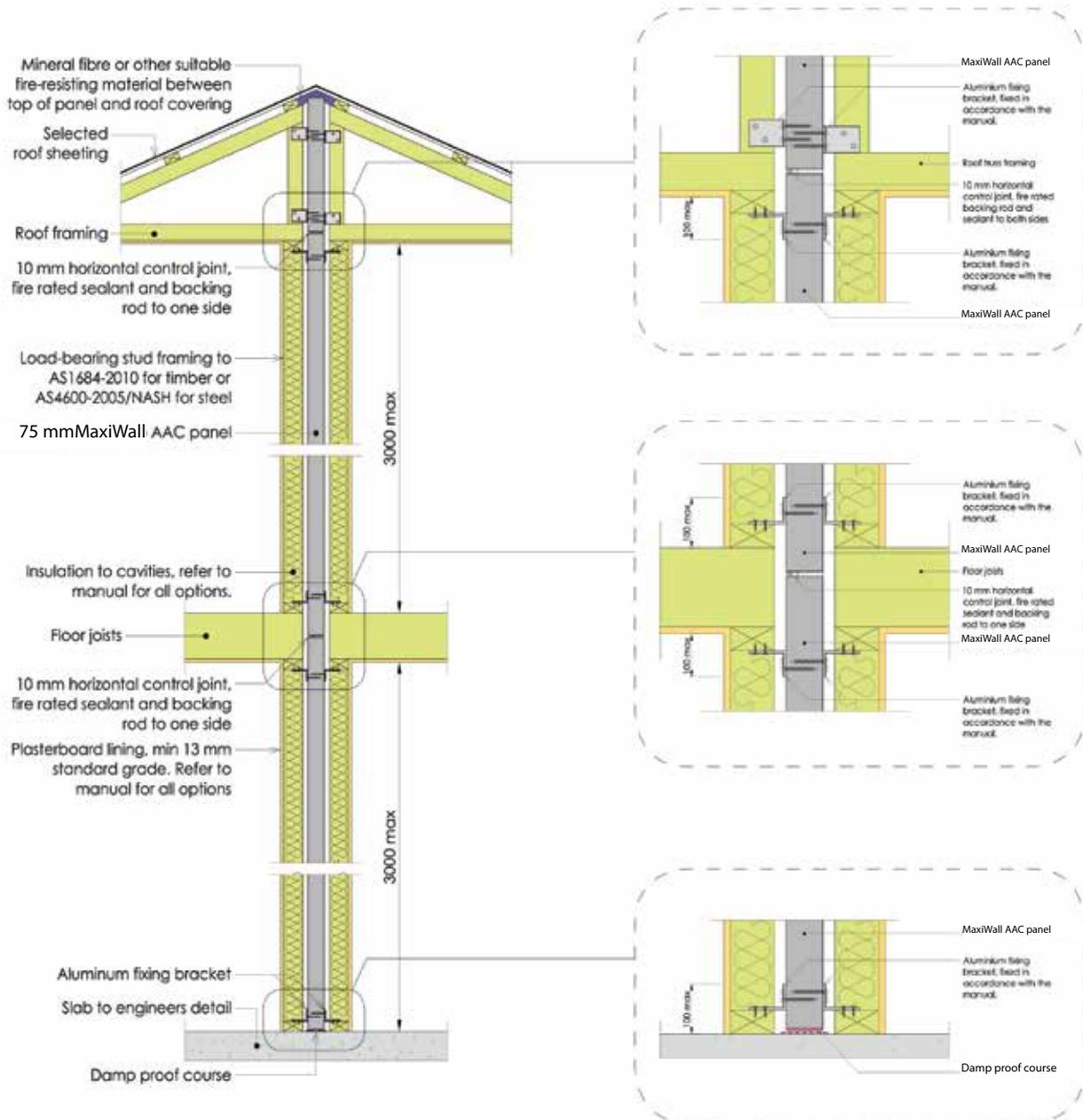
- System components must be supplied by approved supply partners. Refer to www.bigrivergroup.com.au
- All fasteners must be of minimum class 2 corrosion protection in accordance with AS 3566.1-2002

9.0 System Detail

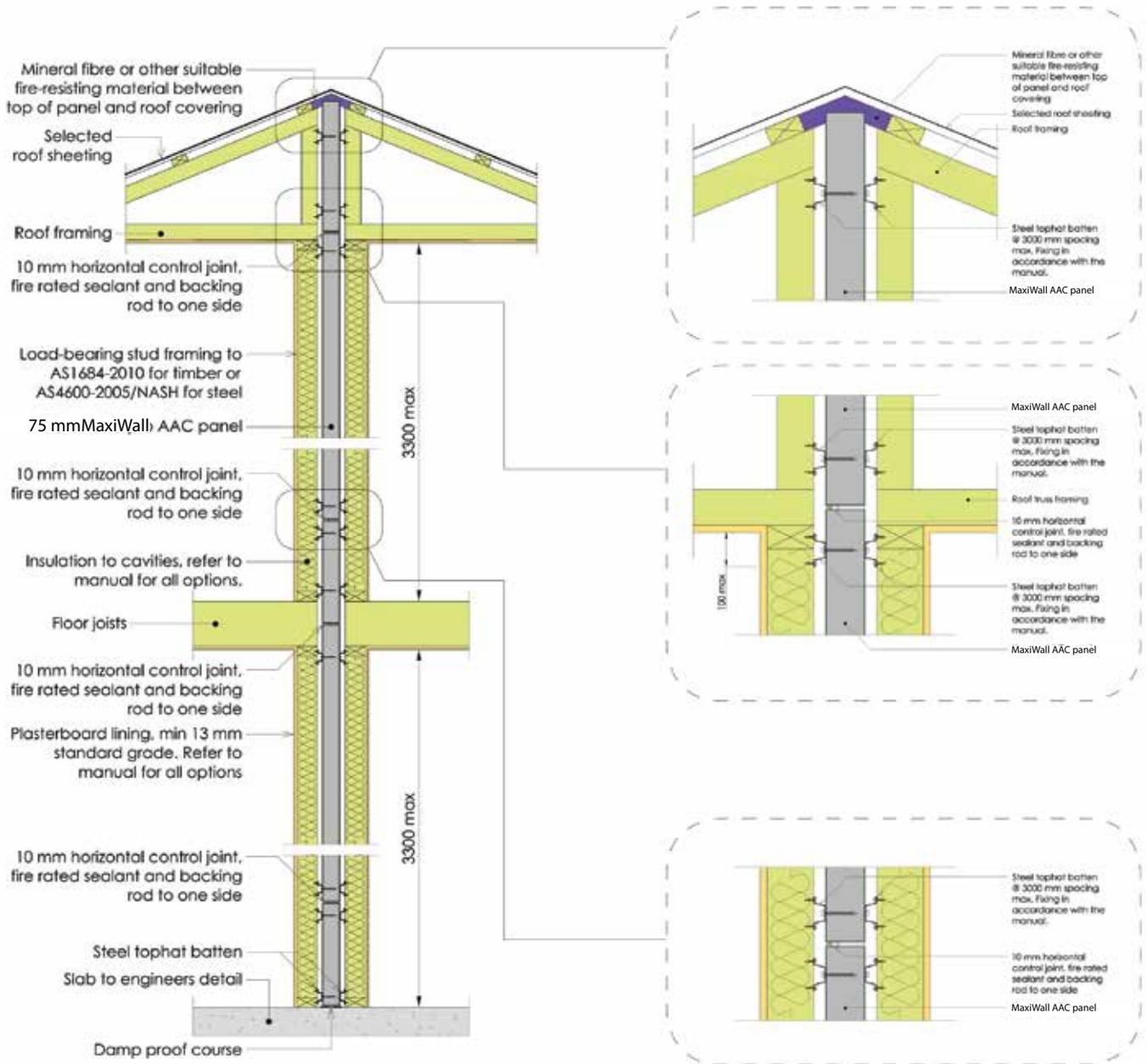
1. Party Wall System: P101SB



2. Party Wall System: P101AB

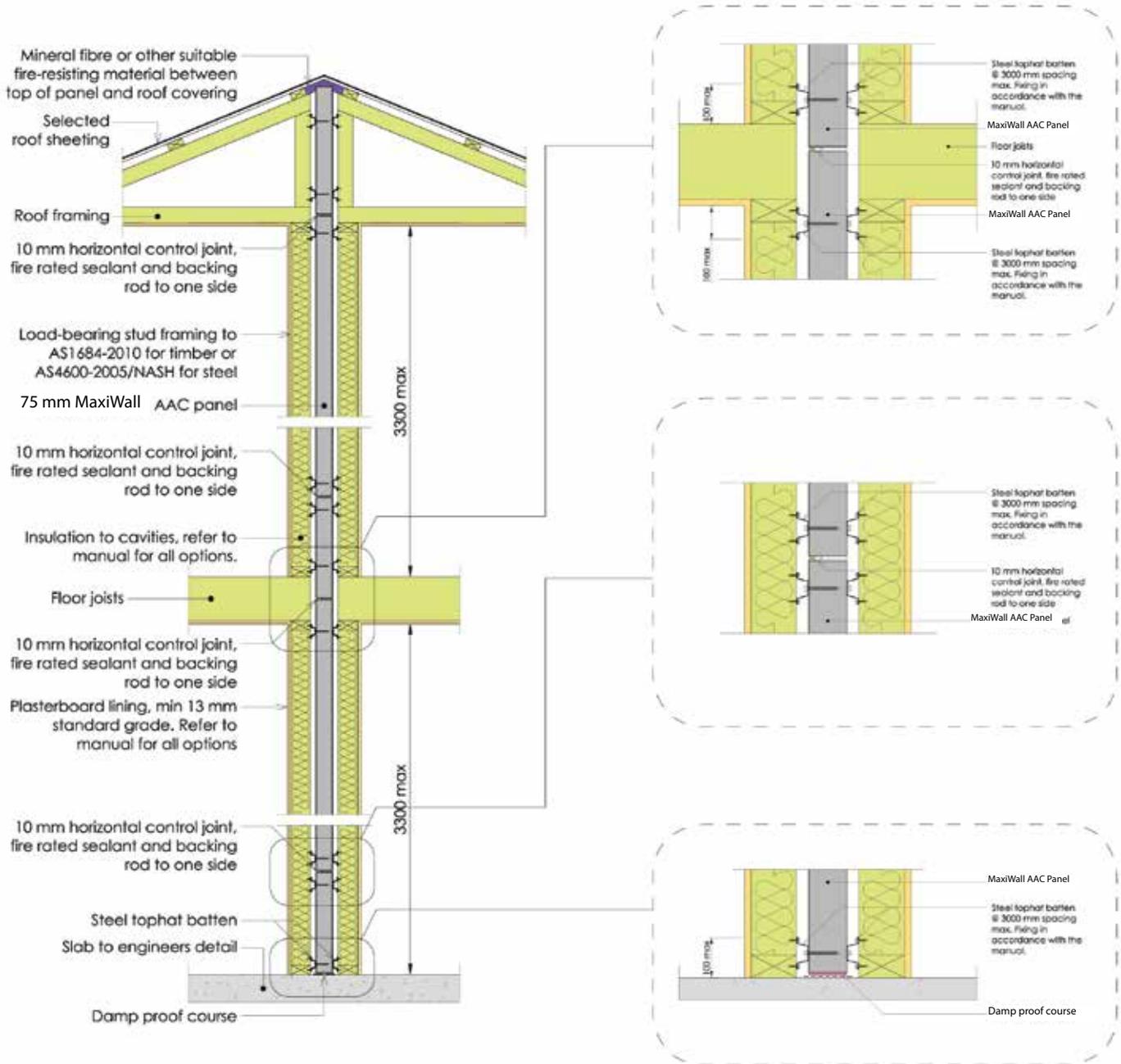


3. Party Wall System: P102SB

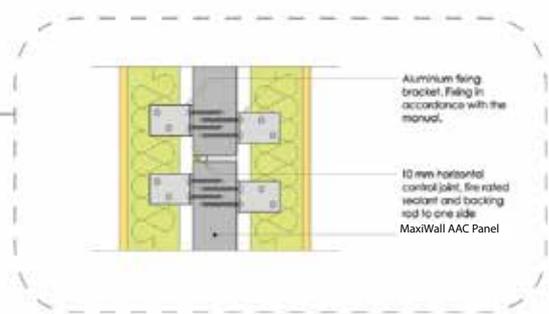
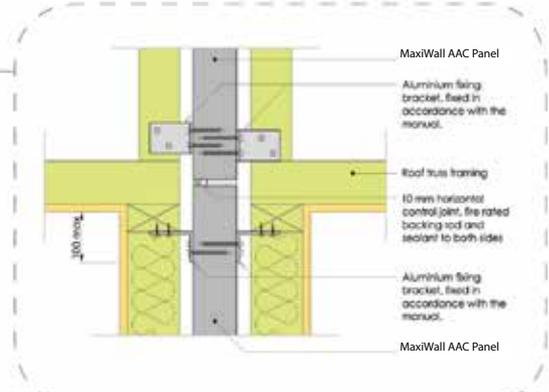
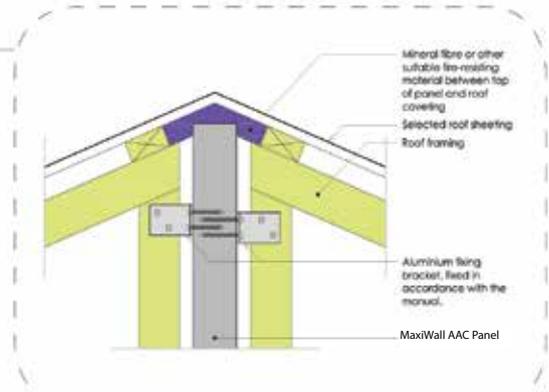
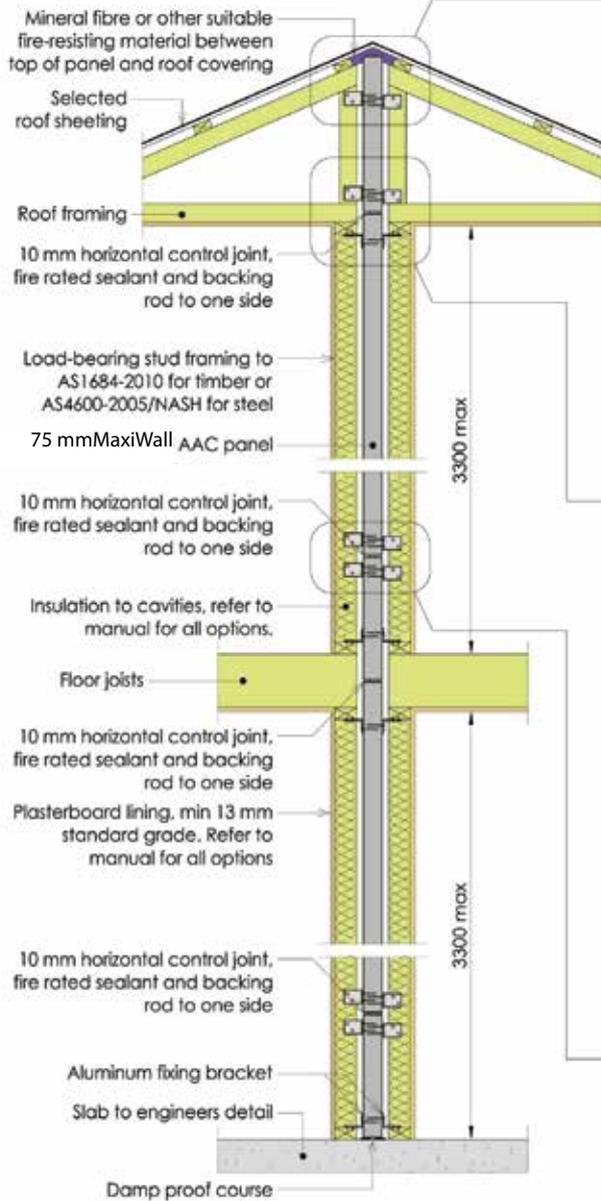


* To achieve discontinuous construction for acoustic requirement under the NCC, the horizontal panel must be installed on top of the vertical panels for each floor level.

Party Wall System: P102SB

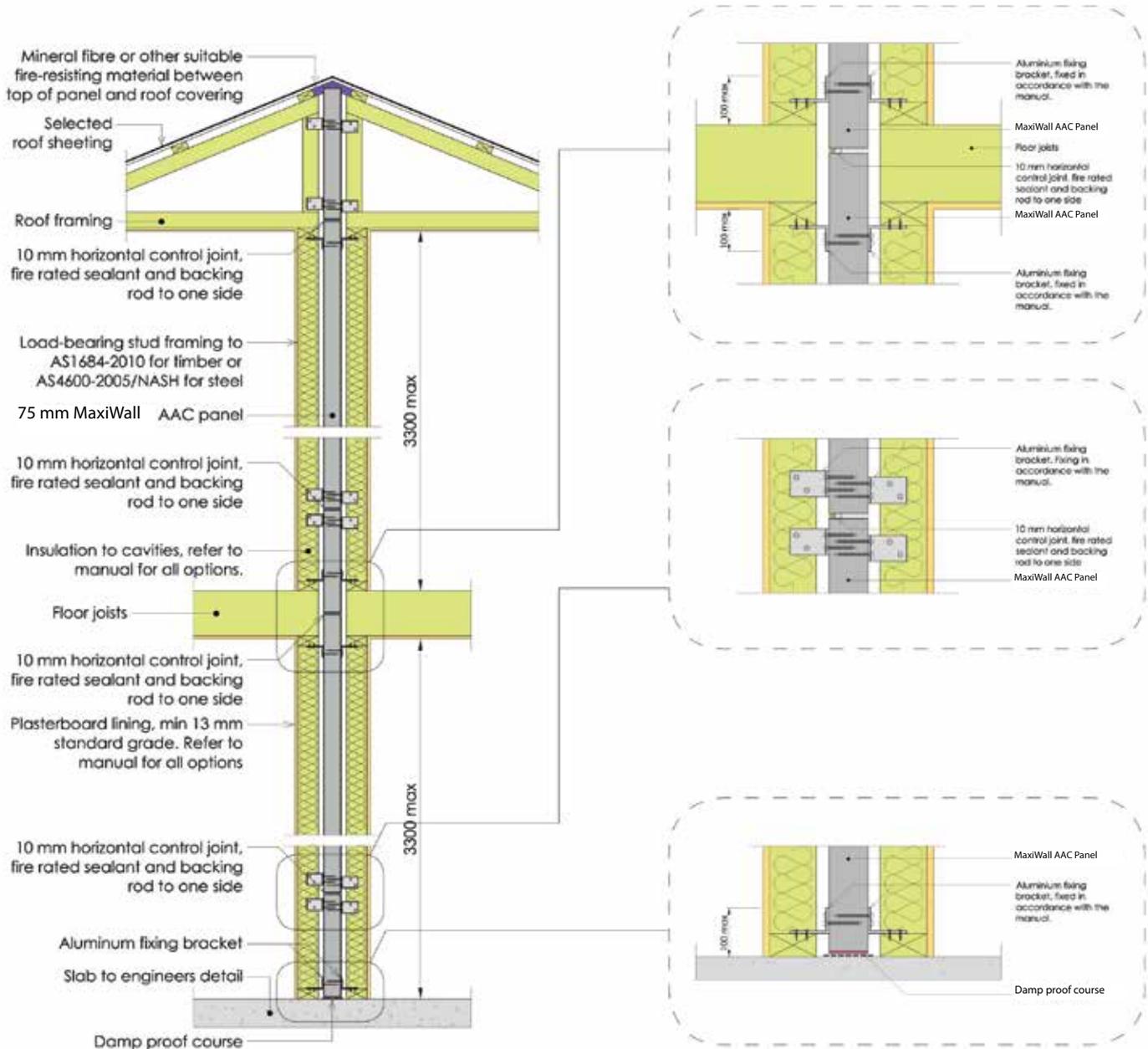


4. Party Wall System: P102AB

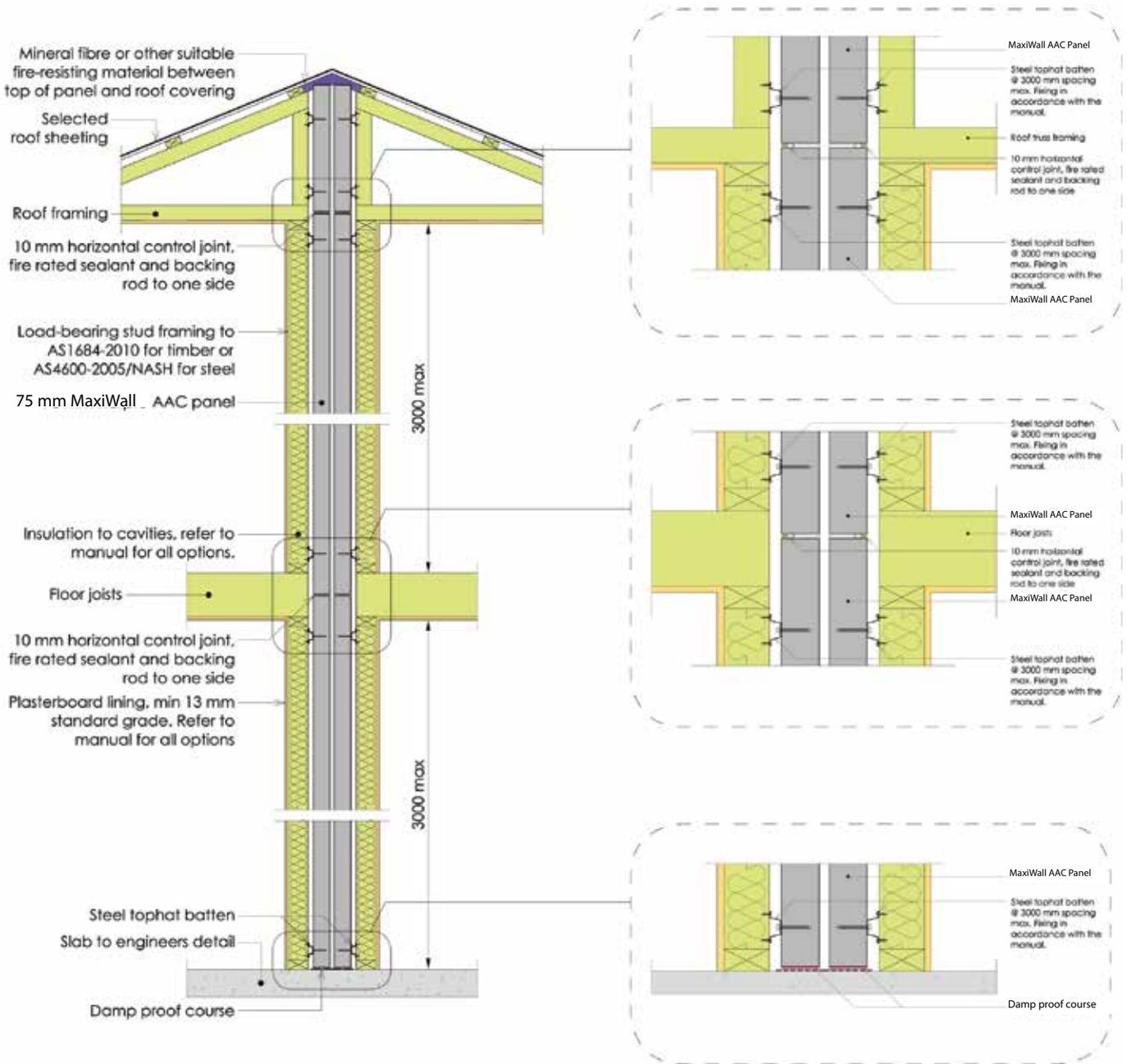


* To achieve discontinuous construction for acoustic requirement under the NCC, the horizontal panel must be installed on top of the vertical panels for each floor level.

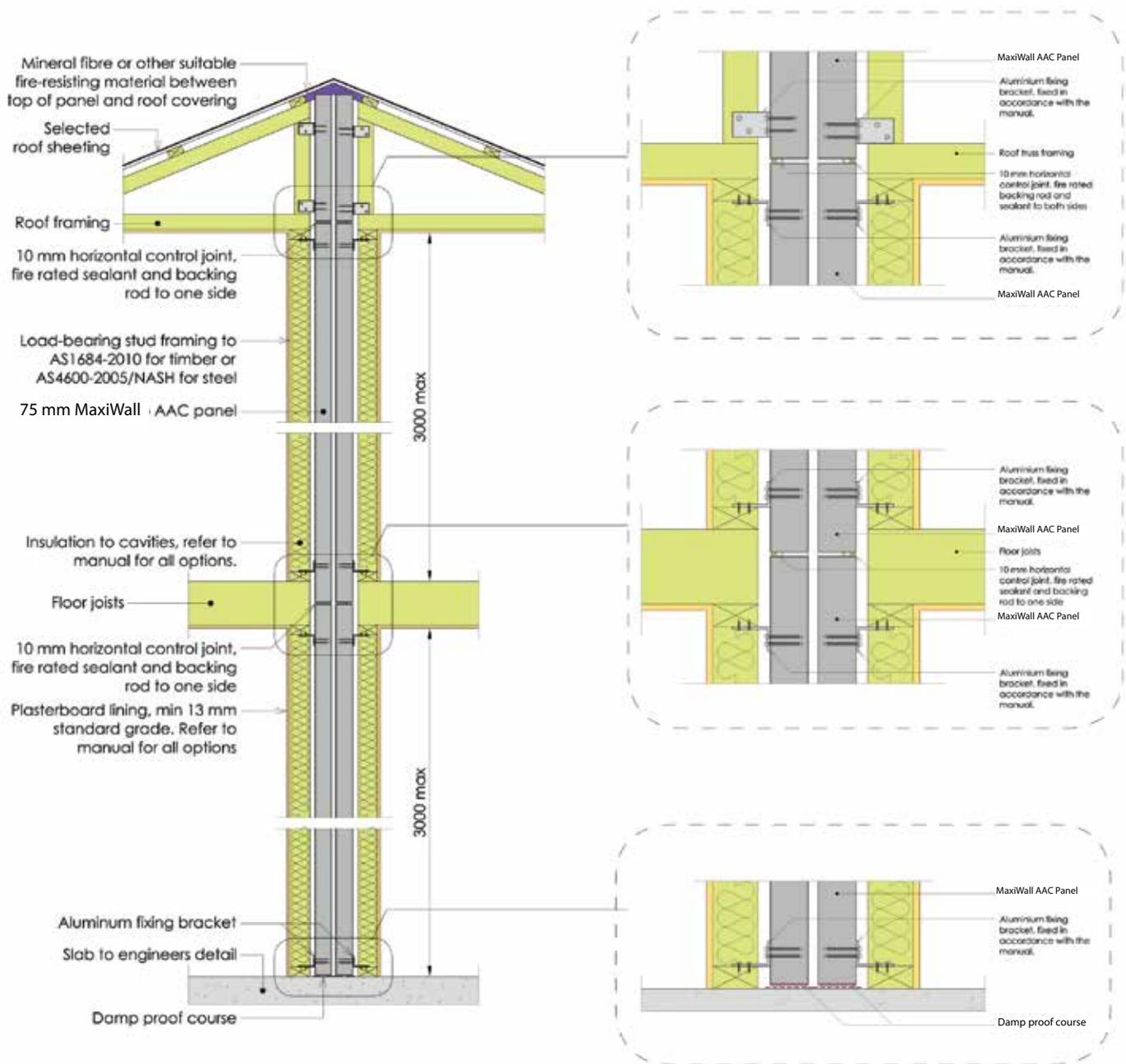
Party Wall System: P102AB



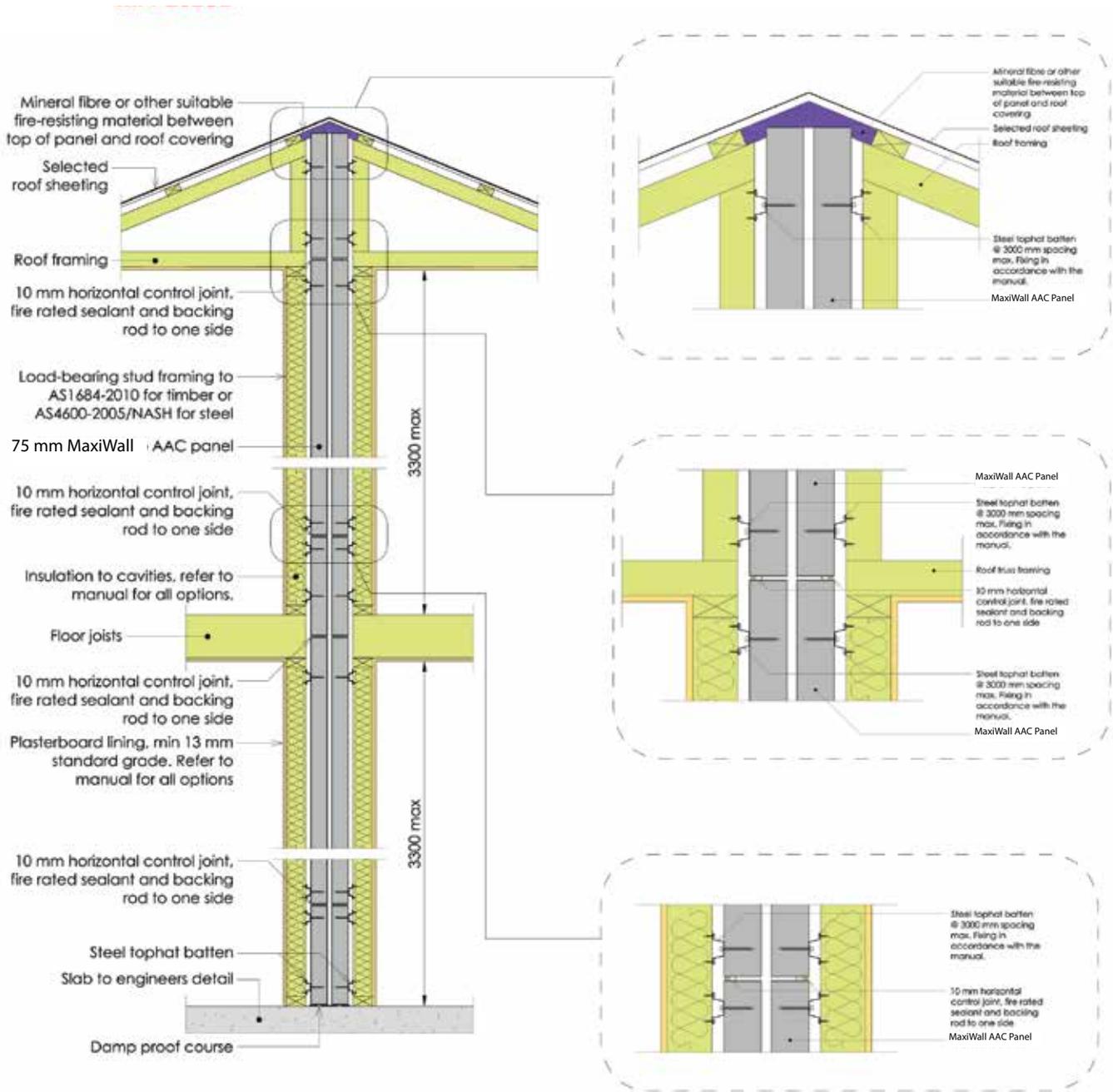
5. Party Wall System: P201SB



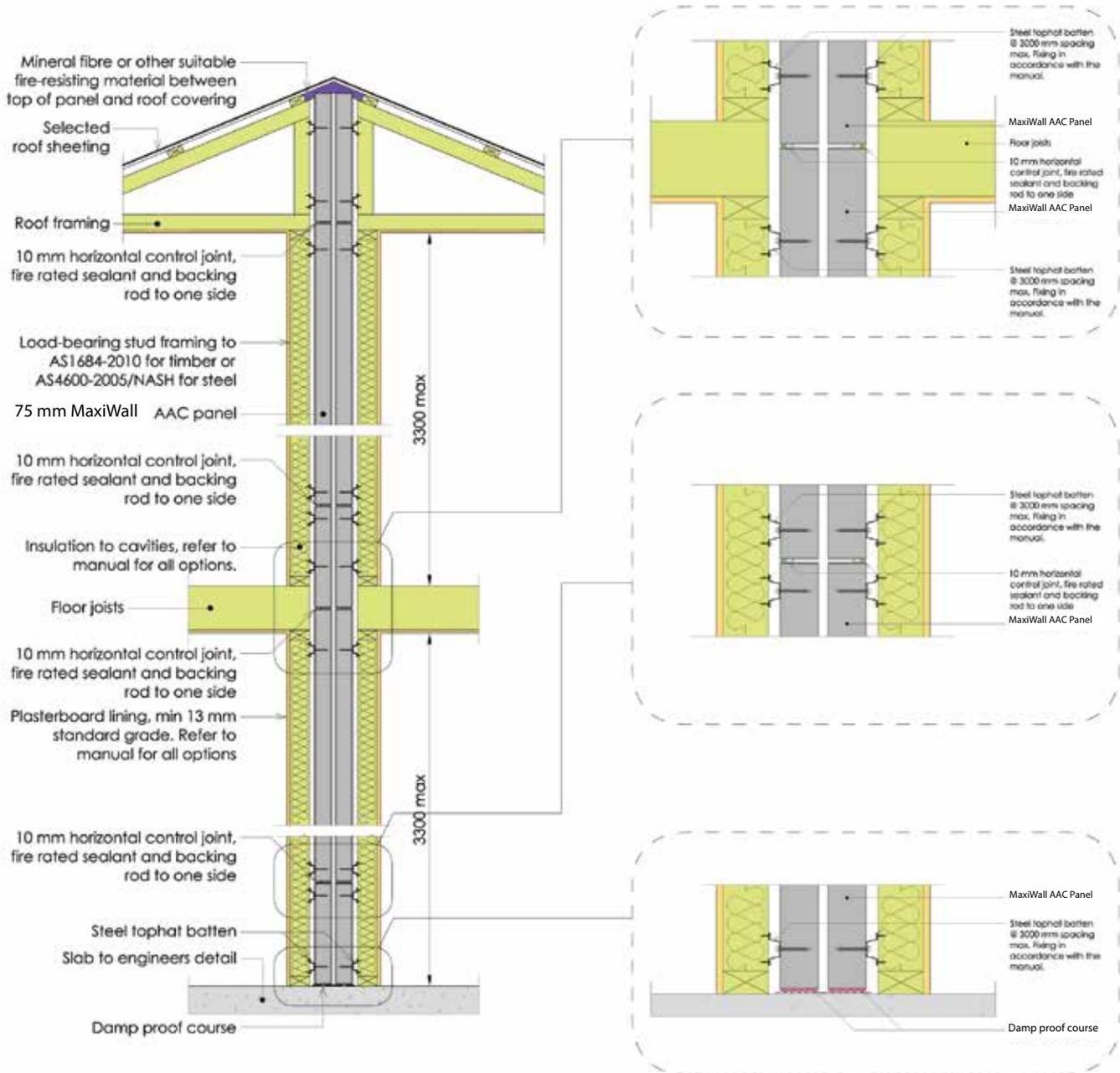
6. Party Wall System: P201AB



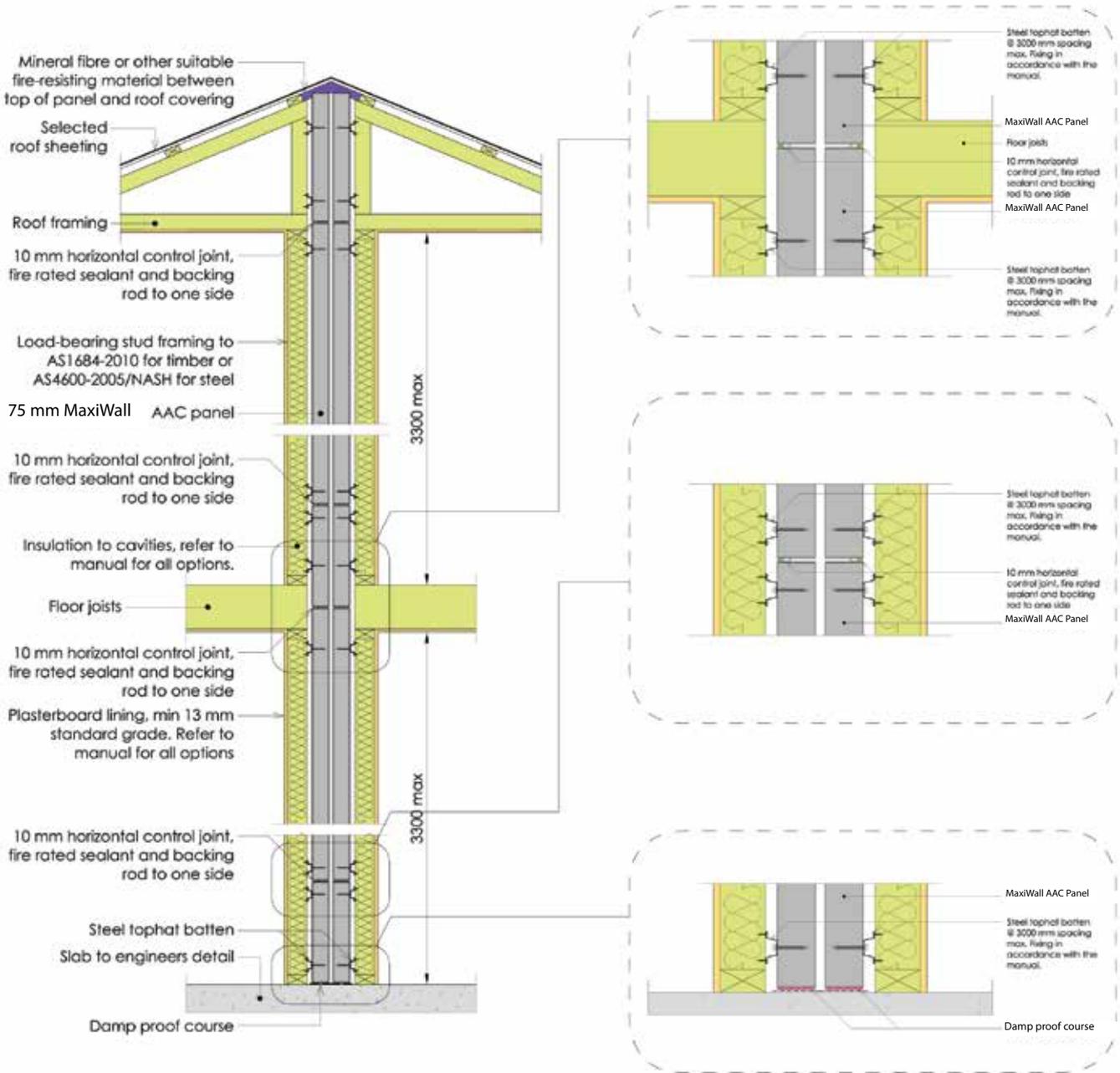
7. Party Wall System: P202SB



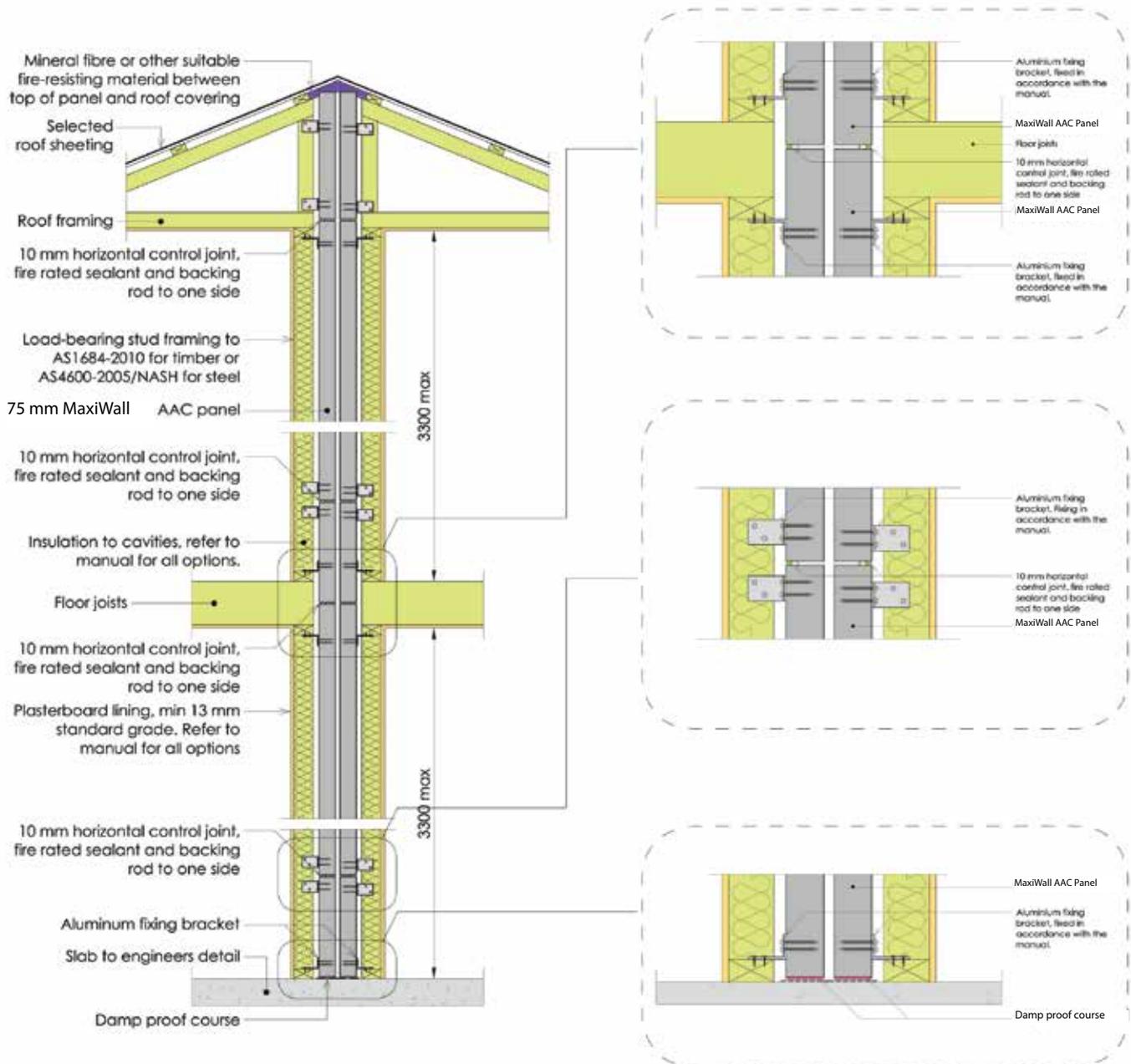
Party Wall System: P202SB



7. Party Wall System: P202AB



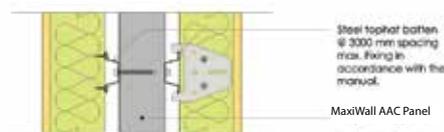
Party Wall System: P202AB



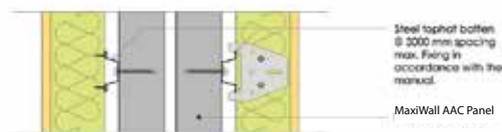
10.0 Alternative System

The two details below, utilising the clip connection to the stud, may be used for all tophat systems. However, it forces the connection to be located more than 100mm away from the floor/ceiling and therefore can only be used where 'discontinuous construction' is NOT required in single panel installations. For double panel installations, 'discontinuous construction' can still be achieved.

1a - Single Panel Tophat Connection

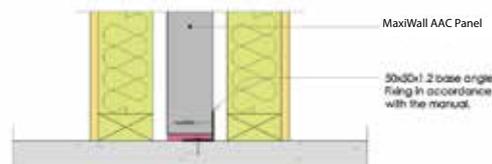


1b - Double Panel Tophat Connection

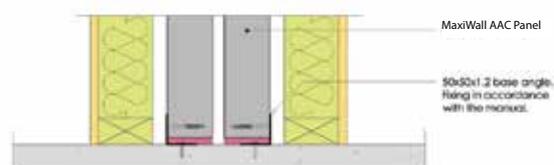


The two base details below may be used for all systems and do not affect the performance of the wall. It can be used where discontinuous construction is specified.

1c - Single Panel Base



1d - Double Panel Base



11.0 Construction Notes

1. Control Joints

Control joints allow the movements of discontinuous building materials and prevent excess stress in the panels. They must be installed to minimise the risk of damage and ensure the FRL and acoustic performance of the wall is maintained. All control joint requirements should be project specific and prepared by the project engineer. MaxiWall approved fire rated sealant and backing rod forming a 10x10mm joint must be used in all installations.

a. Vertical control Joints

Vertical control joints between the MaxiWall wall panels must be installed in the following locations:

- As required by the project engineer to suit site classification and slab/footing design;
- At a maximum of 6.0m centres;
- Near or at all corner intersections;
- At all changes in wall height and
- At the location of movement control joints in the supporting structure (e.g. slabs joints).

b. Horizontal Control Joints

Horizontal control joints between the MaxiWall wall panels must be installed in the following locations:

- At the top of each panel and
- At every floor frame level within the floor joist zone.

2. Mortar

Big River approved mortar can be used at the base of the MaxiWall wall panel when applicable to ensure the fire and acoustic performance of the wall system described in this manual is maintained.

3. Panel Adhesive

Big River approved panel adhesive must be used on every MaxiWall wall panel to panel junction. The adhesive must be applied along the full edge of the panel to be joined for a final joint thickness of 2-3mm. After adhesive is applied, adjoining panels should be pushed hard up against the adhesive. The excess adhesive that is squeezed out of the joint should be removed. Adhesive should not be used at the locations of control joints.

4. Fixing

The fasteners detailed in this manual have been specifically selected for use on the MaxiWall party wall systems. Variation from the fastener details in this manual is not permitted. Be careful not to over tighten the screws when using fasteners into the MaxiWall wall panels. Screw heads should penetrate 5-10mm into the panel face. The use of an appropriately selected drill torque setting is strongly recommended. The minimum edge distance for fasteners into MaxiWall wall panels is 40mm. The following fixing specification should be used on all MaxiWall party wall systems unless noted otherwise by the design engineer or manufacturers specification.

Table 2. - Fixing Specification

Component A	Component B	Fixing Description
MaxiWall wall panel	Steel batten	14-10x90mm type 17 Hex head screw at 300mm centres 14-10x100mm Bugle head screw
Steel batten	MaxiWall wall panel	14-10x65mm type 17 Hex head screw at 300mm centres
Aluminium angle bracket	MaxiWall wall panel	2/14-10x65mm type 17 Hex head screw
Steel batten	Stud frame	For timber: 2/12-11x35mm type 17 Hex head screws per stud For steel: 2/10-16x16mm Hex head tek screws per stud
Aluminium angle bracket	Stud frame	For timber: 2/14-10x39mm type 17 Hex head screws per stud
Base fixing angle	MaxiWall wall panel	12-10x65mm Type 17 Hex head screw at 300mm centres
Base fixing angle	Concrete slab	2.7mmØ x 25 long power actuated fastener at 600mm centres Alternatively, use M10 mechanical fastener at 600mm centres
Plasterboard	Stud frame	Screw fixing to plasterboard manufacturer's recommendations

5. Height Limitation

The maximum floor to ceiling height that MaxiWall party wall systems can achieve while still maintaining a 90/90/90 FRL is 3.6m. Please contact Big River's representative for advice on heights outside this limit.

6. Plumbing and Electrical Service

Penetration and chasing of the party wall is not permitted without consulting a qualified professional, as it may reduce the fire resistance level and acoustic ratings. A fire and/or acoustic engineering consultant must be consulted as required and their guidance strictly followed if penetrations and/or chasing is required.

12.0 Installation Guide

Preparation

1. Ensure the frame meets all local building code requirements prior to panel installation. The alignment of the stud framing should be checked for plumb and straightness, with extra attention paid to corners. Initially, only one side of stud framing should be installed to allow for installation access to the panels.
2. Plan the MaxiWall wall panel layout including:
 - a. Control joints
 - b. Starting location (corners or wall ends are ideal)
 - c. Minimise cutting of panels - cut panels should have a minimum width of 250mm
3. Install the damp proof course and termite barriers in accordance with the manufacturer's details, if required.
4. For Type SB wall systems (steel batten fixing), fix battens to the stud frame at the required spacing. For wall installations using the alternative base angle slab connection, this base angle may replace the batten closest to the slab.

MaxiWall Wall Panel Installation

5. Where possible, pre-cut panels to speed up the installation process. Any exposed reinforcement mesh must be coated with approved anti-corrosion paint to protect from corrosion.
6. Connection details:
 - a. **Standard slab connection details:** form a level base for the panels using a thin bed of mortar when necessary.
 - b. **Base angle slab connection details:** place a base angle along the final panel location, leaving room for the required cavity space between the panel and stud frame. Install the full length of base angle. Over the fixing heads and base angle, form a level base for the panels using a thin bed of mortar when necessary.
7. Place the first panel into position at the centre line of the wall and fix in accordance with Table 2.
 - a. For wall types installed with the **base angle slab connection**, ensure that the panel is fixed hard against the vertical leg of the angle. Ensure that panel is level and plumb and screw fix the panel to the base angle. This base angle connection replaces the bottom plate brackets or lowest steel batten as appropriate.
 - b. For Type AB wall systems (bracket fixing): leave a 20mm cavity space between the stud framing and the panel by using a temporary 20mm packer. Ensure the panel is level and plumb, then screw fix two 70x40x50x3.0mm long aluminium fixing brackets (grade 6063-T6) to each of the top and bottom plates of the stud framing. Fix the aluminium fixing

brackets to the panels. Each panel should have a minimum of 2 brackets at the top and bottom, positioned 100mm in from the edges. For the vertically extended systems, the same fixings are required at the intersection of the horizontal and vertical panels as per the details shown in this manual.

- c. For Type SB wall systems (batten fixing): place the panel hard up against the battens. Ensure the panel is level and plumb, then fix the panels to the battens. Fixing must be positioned 40mm in from the edges. For the vertically extended systems, the same fixings are required at the intersection of the horizontal and vertical panels as per the details shown in this manual.
8. Apply a layer of panel adhesive along the full edge of both the existing panel and the panel to be installed. For vertical control joint locations, leave the edges of the panels clean with a 10mm nominal gap (or as specified by the project engineer).
 9. Slide the next panel hard against the previously installed panel. Ensure the new panel is level and plumb and that the adhesive fully adheres the joining edges. Remove excess adhesive that has been squeezed out of the joint, then screw fix the panel into place.
 10. For all further panels at the same height, repeat steps 8 and 9
 11. At control joint locations, install backing rod and an approved fire rated sealant to the open side of the panel in accordance with the manufacturer's details. Each skin of panels require a minimum of one side to be fire sealed.
 12. Complete a check for defects such as gaps in panel joints, unsatisfactory sealant applications etc and repair any defects found to an acceptable standard.
 13. For two storey construction, a horizontal control joint (10mm wide minimum) must be installed within the floor joist zone. Install the upper storey panels and control joint as per 8 to 12.
 14. For wall systems with two layers of panels, form a mortar bed as per point 6a if required. Place the second layer of panels in position seated on the mortar bed if required and temporarily fix the top of the panel in place with packing and restraints. A resilient fireproof blanket not exceeding 10mm in thickness can be inserted between the two panels to aid construction.
 - a. For Type AB wall systems, install the remaining side of the stud frame with a 20mm cavity between the panels using temporary packers, then screw fix the panel to the stud frame in accordance with point 7b. Fixing bracket edge distance should be 150mm to ensure the fixing brackets are offset from the reverse side.
 - b. For Type SB wall systems:
 - Install the battens to the stud frame in accordance with point 4 prior to lifting the stud frame into position. Then screw fix the battens to the panels in accordance with point 7c

or

- Screw the battens to the panels as above prior to lifting the stud frame into position, then install the alternative clips to the battens, and screw fix the clips to the stud frame using 2 hex head screws per clip.

15. Remove any temporary packers.

16. Install insulation and wall lining as per the specification in this manual in accordance with the manufacturer's details. Refer to MaxiWall Low-Rise Residential Party Wall System HBG-004, October 2015 technical

17. Manual for insulation and plasterboard options.

13.0 Product Declaration

1. Durability & Maintenance

Autoclaved aerated concrete has high porosity and relatively low alkalinity compared to traditional concrete. As a cement-based material, AAC resists water, rot, mold and mildew and can be precisely shaped and conform to tight tolerances when used in building construction.

MaxiWall wall panels have steel mesh that is coated with corrosion resistant paint applied in a two-dip coat process. If panels are cut apply anti-corrosion paint on the exposed steel. Acid, certain salts and acidic gases can attack AAC and therefore special treatment and attention is required for applications subject to these conditions.

2. Fire Resistance

The performance requirements in the NCC-BCA for separating wall states that a building must be protected from the spread of fire from another building: Part 2.3.1 of volume II. To comply with this condition, the NCC-BCA in Part 3.7.1.8 states that the wall must have an FRL of 60/60/60* and a fire resistance level of 60 minutes for structural adequacy, integrity and insulation. Refer to this section in the NCC-BCA Volume II for additional specific requirements for separating wall.

The party wall systems detailed in this manual have been designed to provide a minimum FRL of 90/90/90 exceeding the requirements of NCC. Details of the rigorous physical testing and fire appraisal process are available on request.

It is recommended that an experienced and qualified fire engineer be engaged to provide project specification and professional advice for the party wall system specific to each individual project in order to achieve the best building system outcomes and compliance with the NCC-BCA. Penetrations or chasing proposed for the project must be fully assessed by the fire engineer.

3. Acoustic Performance

The separating walls between dwellings are required by the NCC-BCA to be insulated against both airborne sound transmission and impact generated sound in some cases. The NCC requires the following:

- For airborne sound transmission a separating wall between two Class 1 buildings (dwellings) must have an $R_w + C_{tr}$ 50 and
- For impact generated sound a separated wall between a bathroom, sanitary compartment, laundry or kitchen and a habitable room (other than a kitchen) in an adjoining Class 1 building (dwelling) must be of 'discontinuous construction'.

Discontinuous construction is defined as a wall having a minimum 20mm cavity between 2 separate leaves and ensuring there is no mechanical linkage between leaves except at the periphery.

The systems outlined in this manual have been tested and designed to show their performance in accordance with the requirements of the NCC.

The single leaf 75mm MaxiWall wall panel was tested to achieve an $R_w (C;C_{tr})$ of 34 (-2;-3). The performances of a range of wall systems are available from MaxiWall. A range of common systems are detailed in Table 3 below.

It is recommended that an acoustic consultant is engaged to provide acoustic specification and advice particularly with respect to the detailing of junctions and penetrations for each individual project.

System Type	Diagram	Description	Plasterboard Type	Stud framing Type	Wall Thickness	Rw	Rw + Ctr	Discontinuous Construction
P101SB P101AB		Plasterboard Stud framing Insulation type 1,2 or 3 20mm cavity 75mm MaxiWall wall panel 20mm cavity Stud framing Insulation type 1,2 or 3 Plasterboard	13mm Standard	70mm timber or steel	281mm	62	50	YES
				90mm timber or steel	321mm	63	51	
P102SB P102AB		Plasterboard Stud framing Insulation type 1,2 or 3 20mm cavity 75mm MaxiWall wall panel 20mm cavity Stud framing Insulation type 1,2 or 3 Plasterboard	13mm Standard	90mm timber or steel	321mm	62	50	NO
P201SB P201AB		Plasterboard Stud framing Insulation type 1,2 or 3 10mm cavity minimum 75mm MaxiWall wall panel 10mm cavity maximum 75mm MaxiWall wall panel 10mm cavity minimum Stud framing Insulation type 1,2 or 3 Plasterboard	13mm Standard	70mm minimum timber or steel	346mm	70	55	YES
P202SB P202AB		Plasterboard Stud framing Insulation type 1 or 2 10mm cavity minimum 75mm MaxiWall wall panel 10mm cavity maximum 75mm MaxiWall wall panel 10mm cavity minimum Stud framing Insulation type 1 or 2 Plasterboard	13mm Standard	70mm minimum timber or steel	346mm	70	55	YES

Notes regarding the acoustic performance table above:

1. All internal wall lining applied directly to MaxiWall wall panels should be installed using screws to provide secure fixing. Wall adhesive should not be used under any circumstances.
2. All steel stud framing is to be a minimum of 0.75 BMT
3. The various insulation types noted in the Table 3 are outlined in Table 4.
4. R-Value in Table 5 is calculated based on the mean dry thermal conductivity density 10dry (50%) as per BS EN 12602:2008 Clause 4.2.13, Table 4.

Table 4. - Insulation Specification

Type	Description
Type 1	Glasswool 75mm thick of at least 11kg/m3 density
Type 2	Polyester 75mm thick of at least 15kg/m3 density
Type 3	Earthwool type E2905 50mm thick of at least 14kg/m3 density

5. Quality Assurance

Quality is important to our business. We strive to provide our customers with products and systems that meet and exceed their expectations. MaxiWall wall panels are manufactured exclusively for Big River. The manufacturing operations and quality assurance of MaxiWall wall panels have been independently audited and certified to meet the requirements of the ISO 9001:2008 Quality Management Systems.

MaxiWall wall panels used in the party wall systems for low-rise multi-residential buildings and houses are specifically developed to combine performance attributes for structural capacity, fire resistance and acoustic insulation. Subject to the conditions and exclusions set out under the MaxiWall Warranty Statement, Big River warrants that the MaxiWall wall panels sourced from its manufacturing partners are free from defects in materials and manufacture.

6. Sustainability

Autoclaved aerated concrete offers sustainability in terms of material and performance. It uses approximately onequarter of the concrete raw material and incorporates large quantity of air resulting in fewer raw materials used per square meter than many other building materials. It also has superior insulation properties compared to concrete and conventional masonry and is about one-fifth of the mass of concrete. The air-tightness in the system creates an energy efficient envelope and prevents unwanted air losses compared to conventional frame construction thus reducing energy use.

14.0 Material Handling

Panel Unloading

MaxiWall wall panels are shipped in packs of 10, stacked on the longitudinal edge. The packs are strapped to strengthened timber pallets and are wrapped in resilient plastic sheeting. Crane slings and forklifts may be used in accordance with standard industry practice. The Project Engineer is cautioned regarding the initial delivery of the panel packs that should be unloaded as close as possible to the installation area. Secondary handling of the panels increases the risk of damage, and installation of damaged panels may void the warranty.

Storage & Protection

MaxiWall wall panel packs, when on construction site must be stored on a flat-grade level that is not prone to standing water, erosion or settling. It must be left on its edge to avoid sagging. The packs may be stacked up to 3 packs high on flat load-bearing stable platform so far as is reasonably practical and safe for workers and others. The packs should not be stacked if stored on un-level and natural ground.

MaxiWall wall panels should ideally be kept dry with attention paid to protecting panel ends, edges and surfaces. In adverse weather conditions the panels must be kept covered. Do not “shake-out” stored panels until they are ready to be installed. MaxiWall wall panels with a central single layer of reinforcement and length over 1800mm are at risk of cracking under their self-weight when carried or lifted from the horizontal or tilted from the vertical position. Adequate support must be provided when lifting. Panels must always be carried edge up. Lifting equipment must be used when necessary.

Most chipped corners and edges can be repaired with MaxiWall’s approved patching compounds. If reinforcing steel mesh is visible it must be protected using the approved touch-up paint. Panels that have surface or minor cracks are usable but if not sure contact an authorized Big River representative.

Health & Safety

Safety Data Sheets (SDS) are provided with all MaxiWall wall panels including major components associated with the system such as coatings, patching compound, thin-bed adhesive and reinforcement touch-up paint. AAC building products contain Crystalline Silica (Quartz) that as dust is produced during cutting, grinding or drilling. It is categorized as a health hazard when inhaled. Approved dust masks and protective safety glasses or goggles must be worn for dust generating operations.

All AAC products are to be handled and worked on-site with the appropriate protective clothing. Protective gloves must be used for all construction operations. It is the responsibility of the builder/site supervisor to ensure that installation contractors adhere to safe work practices and suitable clothing.

15.0 Material Property

Table 5. - MaxiWall Wall Panel Physical Properties & Tolerances

No.	Description	Characteristics	Specifications
1	Dimensional tolerance	Length Width Thickness	$\leq \pm 3.0$ mm $\leq \pm 1.5$ mm $\leq \pm 2.0$ mm
2	Physical	Dry density Working Density	510 kg 675 kg
3	Strength	Compressive strength Modulus of rupture	3.50 Mpa 0.75 Mpa
4	Acoustic	Weighted sound reduction	34 dB
5	Thermal	Thermal resistance value (R-value)	0.6
6	Steel mesh	Position from center of panel	± 3.0 mm

Table 6. - MaxiWall Wall Panel Weight Information

Length (mm)	Panel weight (kg)	10 panels on pallet weight (kg)
1200	36	397
1800	54	595
2200	66	728
2400	72	794
2550	77	845
2700	81	900
2850	86	943
3000	90	992
Thickness 75mm, Width 600mm		

16.0 Responsibility & Warranty



Responsibility

The final specification and certification of the external wall system using MaxiWall 75mm AAC wall panels lie solely with qualified design and building construction professionals responsible for the project. These professionals would generally comprise of structural engineers, fire engineers and acoustic engineers. The design consideration, fixing specifications and installation details in this manual represent common types of construction and detailing practice used in Australia. A competent professional must approve any variations or alternatives to the technical information described in this manual.

Disclaimer

The information contained in this technical manual is only advisory and general in nature. It is not intended to substitute advice or consultation from registered building construction professionals to ensure designs, systems and installation for projects conform to the National Construction Code and Building Codes of Australia including any other laws imposed by the States or local councils. The user of this manual understand and agree that MaxiWall, its member companies, its officers, agents and employees shall not be liable in any manner under any theory of liability for the user's reliance on this manual. The user agrees to release, hold harmless and indemnify MaxiWall, its member companies, successors, assigns, officers, agents and employees from any and all claims of liability, costs, fees (including lawyer's fees), or damages arising in any way out of the use of this information.



PRODUCT WARRANTY

MaxiWall 75mm Autoclaved Aerated Concrete Panels

Provided by:	Big River Group Pty Ltd Trenayr Road, Junction Hill NSW 2460 1300 881 958
Product type:	MaxiWall 75mm autoclaved aerated concrete panels.
Warranty statement:	Big River warrants that its MaxiWall 75mm autoclaved aerated concrete (AAC) building panels are free from defects in materials and manufacture subject to the conditions and exclusions set out in the Product Warranty.
Warranty cover:	This Warranty covers the above product type that has defects in materials or workmanship due solely to improper manufacture. Defects include but not limited to structural defects, dimensional discrepancies beyond acceptable tolerances and failure to meet product quality standards and specifications as set forth in our approved Technical Manuals.
Warranty conditions:	This Warranty shall only apply where the relevant building system constructed complies with Big River approved Technical Manuals for High- Rise Residential Internal Wall System and External Wall Panels for Low-Rise Residential Buildings. Ensure registered professionals, such as licensed builders, architects and engineers are consulted to determine that the design, system and installation are suitable for the project and conforms to the Building Code of Australia.
Warranty period:	Subject to the conditions and exclusions, set out under this Warranty, Big River warrants that its MaxiWall AAC 75mm panels are sourced from reputable manufacturers or suppliers and are covered by their respective guarantees or warranties and any warranties imposed by the Australian Consumer Law. The term of warranty is 7 years from the date of purchase.



PRODUCT WARRANTY

Warranty exclusion:	This Warranty shall not cover any defect arising from non-compliance of structural design in accordance to the Building Code of Australia, faulty installation, environmental conditions that are beyond Big River control, modifications, alterations, failure to comply with the conditions of cover, force majeure or any other cause or damage not resulting from defects in materials or workmanship due solely to improper manufacture.
Warranty settlement:	Subject to the legal rights of a consumer under law, if any of the MaxiWall AAC 75mm panels are so defective, Big River will, subject to verification and inspection of such defects by a MaxiWall representative and at its sole option: either replace the products or supply equivalent products, repair the defective products or reimburse for the replacement and repair of the products. Big River will not be liable for any punitive, indirect, special, incidental or consequential damages other than what is stated in the Product Warranty.
Associated materials warranty:	This Warranty does not cover any materials, components or system associated with or supplied by third parties. Please refer to your supplier's warranty terms and conditions.
Warranty Claims:	Homeowners should contact their Builders. Builders wishing to make a claim under this Warranty should contact an authorised Big River distributor or representative. Otherwise please contact Big River directly on 1300 881 958. Claims for warranty must be presented in writing to Big River and will require proof of purchase itemizing the panel sizes, and batch numbers, name of project and nature of defects along with the proof when the panels were installed.

Except as provided herein, Big River makes no express or implied warranties. This Warranty is exclusive of all other warranties and shall not be extended, altered or varied except by a written instrument signed by an authorised representative of Big River.

Contact Us

For all sales and technical enquiries please contact the experts at Big River:

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Email: info@bigrivergroup.com.au

For all technical enquiries please contact:

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