

Axon™ Panel Smooth External Stone/ Tile/Brick Slip

Installation Specification

November 2024 New Zealand



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To continue with the development of our products and systems, we value your input. Please send any suggestions, including your name, contact details, and relevant sketches to:

Ask James Hardie™
literaturefeedback@jameshardie.co.nz

Make sure your information is up to date

When specifying or installing Hardie™ fibre cement products, ensure that you have the current manual. Additional installation information, warranties and warnings are available at **www.jameshardie.co.nz** or **Ask James Hardie™ on 0800 808 868.**

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1 Introduction

This installation guide has been developed for external tiling/schist stone/stone slip layer over Axon™ Panel Smooth (formerly EasyLap™ Panel) only.

For standard Axon™ Panel Smooth installation for painting refer to the current Axon™ Panel technical specification.

The Axon™ Panel Smooth is a fibre cement base sheet with shiplap joint, and is suitable for use as a substrate for an external wall stone/tile/brick slip application in residential construction.

This guide is restricted to:

- 1) Maximum stone/tile/brick slip weight to 60kg/m² adhered to Axon™ Panel Smooth.
- 2) Up to EH Wind Zone as per NZS 3604.
- 3) Maximum wall height of 6m.
- 4) Maximum stud centres 400mm.

This manual outlines guidelines for an external stone/tiling/brick slip application which consists of two components:

- 1) The Axon™ Panel Smooth as substrate; and
- 2) The waterproofing and stone/tile/brick slip application is supplied and warranted by third party companies (refer to section 5 of this manual for more information).

It is mandatory to apply a full waterproofing system (primer and membrane) over the Axon™ Panel Smooth prior to stone/tiling/brick slip application externally.

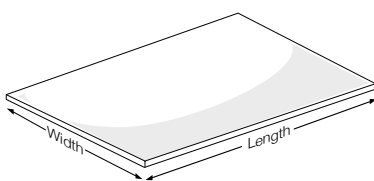
Curved wall applications are outside the scope of this manual.

Make sure your information is up to date

When specifying or installing Hardie™ fibre cement products, ensure you have the current manual. If you're not sure you do, or you need more information, visit www.jameshardie.co.nz or Ask James Hardie on 0800 808 868.

Only use recommended waterproofing systems tested and warranted by the waterproofing companies stated in this application guide on page 18.

Table 1

Axon™ Panel Smooth			
	Two edges step recessed (2 long edges)		
	Length (mm)	Width (mm)	Code
	2450	1200	404764
3000	1200	404763	

Note: All dimensions and masses provided are approximate only and subject to manufacturing tolerances.

Table 2
















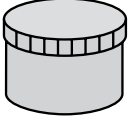





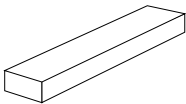
Accessories supplied by James Hardie			
	Description	Size (mm)	Code
	Inseal® 3259 1.5mm thick 48mm 80mm	50m roll 50m roll	300767 300769
	Hardie™ Flex 316 Stainless Steel nail 60 x 3.15mm	5kg	302782
	Hardie™ Flex Hot Dip Galvanised nail 60 x 3.15mm	5kg	302784
	Hardie™ 9mm Aluminium Internal Corner to join two 9mm panels at an internal corner	2750mm long 4000mm long	306218 306219
	Hardie™ 9mm Aluminium Angle T Socket A horizontal T flashing to flash the horizontal joints. 9mm etch primed.	3000mm long	306210
	Hardie™ Angle T Horizontal Jointer A jointer to cover the butt joint of T mould	100mm long	306221
	Hardie™ Angle T External Corner Jointer T mould external corner		306222
	uPVC Vent Strip	3000 long	302490
	uPVC Corner Underflashing 50 x 50mm	3000 long	303745
	Hardie™ Blade Saw Blade Diamond Tipped	4 tooth - 184mm	300660

Table 3

Accessories not supplied by James Hardie	
James Hardie recommends the following products for use in conjunction with its Axon™ Panel Smooth. James Hardie does not supply these products. Please contact component manufacturer for information on their warranties and further information on their products.	
	Description
	Flexible sealant e.g. Sikaflex® AT Facade or similar Ensure compatible with waterproofing system
	PEF rod or expandable foam
	Flashing tape Tyvek®, Protecto® wrap or similar Proprietary tape to adhere to flexible underlay
	Flashing to Table 20 'E2/AS1'
	Support angle Aluminium as specified by designer
	Inseal® 3109 Sealing Strip 19 x 10
	Waterproofing Membrane <ul style="list-style-type: none"> • Sika® • Craftstone® • Ardex™ NZ Ltd • Bostik® NZ Ltd
	Flexible underlay Must comply with Table 23 of E2/AS1.
	Flexible Window Opening Flashing Tape A flexible self-adhesive tape used in preparation of a window. Refer to the window installation section in this manual for more information. e.g. Protecto® or SUPER-STICK Building Tape® by Marshall Innovation or 3M™ All Weather Flashing Tape 8067 by 3M™ Marshall Innovation 0800 776 9727 3M™ 0800 474 787
	60 x 2.87 RoundDrive nail (ring shank hot dipped galvanised/stainless steel)
	40 x 2.8mm or longer Hardie™ Flex nail. Hot dipped galvanised. For fixing timber cavity battens and aluminium flashings.
	Head flashing Required over window heads to be supplied by window installer. Material must comply with Table 20 and 21 of E2/AS1.
	Timber cavity batten H3.1 minimum treated timber cavity batten the cladding is fixed over.

2 Safe Working Practices

WARNING - DO NOT BREATHE DUST AND CUT ONLY IN WELL VENTILATED AREA

Hardie™ fibre cement products contain sand, a source of respirable crystalline silica

May cause cancer if dust from product is inhaled. Causes damage to lungs and respiratory system through prolonged or repeated inhalation of dust from product.

Intact fibre cement products are not expected to result in any adverse toxic effects. The hazard associated with fibre cement arises from the respirable crystalline silica present in dust generated by activities such as cutting, rebating, drilling, routing, sawing, crushing, or otherwise abrading fibre cement, and when cleaning up, disposing of or moving dust.

When doing any of these activities in a manner that generates dust, follow James Hardie instructions and best practices to reduce or limit the release of dust.

If using a dust mask or respirator, use an AS/NZS 1716 P1 filter and refer to Australian/New Zealand Standard 1715:2009 Selection, Use and Maintenance of Respiratory Protective Equipment for more extensive guidance and more options for selecting respirators for workplaces. For further information, refer to our installation instructions and Safety Data Sheets available at www.jameshardie.co.nz.

FAILURE TO ADHERE TO OUR WARNINGS, SAFETY DATA SHEETS, AND INSTALLATION INSTRUCTIONS MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

Crystalline Silica is

- Commonly known as sand or quartz
- Found in many building products e.g. concrete, bricks, grout, wallboard, ceramic tiles, and all fibre cement materials

Why is Crystalline Silica a health hazard?

- Silica can be breathed deep into the lungs when present in the air as a very fine (respirable) dust
- Exposure to silica dust without taking the appropriate safety measures to minimise the amount being breathed in, can lead to a potentially fatal lung disease – silicosis – and has also been linked with other diseases including cancer. Some studies suggest that smoking may increase these risks
- The most hazardous dust is the dust you cannot see!

When is Crystalline Silica a health hazard?

- It's dangerous to health if safety protocols to control dust are not followed when cutting, drilling or rebating a product containing crystalline silica and when cleaning up
- Products containing silica are harmless if intact (e.g. an un-cut sheet of wall board)

Avoid breathing in crystalline silica dust

Safe working practices

- ✗ NEVER use a power saw indoors or in a poorly ventilated area
- ✗ NEVER dry sweep
- ✓ ALWAYS use M Class or higher vacuum or damp down dust before sweeping up
- ✗ NEVER use grinders
- ✓ ALWAYS use a dust reducing circular saw equipped with a sawblade specifically designed to minimise dust creation when cutting fibre cement – preferably a sawblade that carries the Hardie™ Blade name or one with at least equivalent performance – connected to an M Class or higher vacuum
- ✓ Before cutting warn others in the area to avoid dust
- ✓ ALWAYS follow tool manufacturers' safety recommendations
- ✓ ALWAYS expose only the minimum required depth of blade for the thickness of fibre cement to be cut
- ✓ ALWAYS wear a properly-fitted, approved dust mask or respirator P1 or higher in accordance with applicable government regulations and manufacturer instructions
- ✓ Consider rotating personnel across cutting tasks to further limit respirable silica exposures.

When cutting Axon™ Panel Smooth:

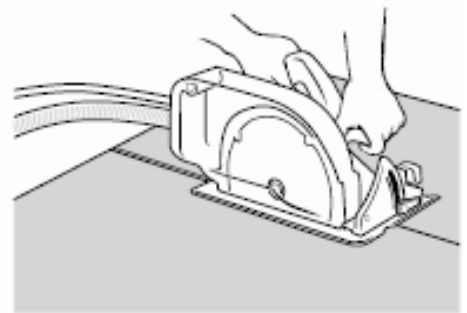
- ✓ Work outdoors only
- ✓ Make sure you work in a well ventilated area
- ✓ Position cutting station so wind will blow dust away from yourself and others in the working area
- ✓ Rotate employees across cutting task over duration of shift
- ✓ Cut products with a Hardie™ Blade Saw Blade (or equivalent) and a dust reducing circular saw connected to a M Class or higher vacuum
- ✓ When sawing, sanding, rebating, drilling or machining fibre cement products, always:
 - Wear your P1 or higher (correctly fitted in accordance with manufacturers' instructions), ask others to do the same.
 - Keep persons on site at least 2 metres and as far as practicable away from the cutting station while the saw is in operation
 - If you are not clean shaven, then use a powered air respirator with a loose fitting head top
 - Wear safety glasses
 - Wear hearing protection
- ✓ Make sure you clean up BUT never dry sweep. Always hose down with water/wet wipe or use an M Class or higher vacuum

If concern still exists about exposure levels or you do not comply with the above practices, you should always consult a qualified industrial hygienist or contact James Hardie for further information.

Working Instructions

Hardie™ Blade Saw Blade

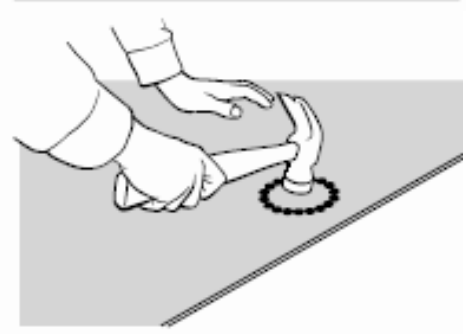
The Hardie™ Blade Saw Blade used with a dust-reducing saw is ideal for fast, clean cutting of Hardie™ fibre cement products. A dust-reducing saw uses a dust collector connected to a M Class or higher vacuum. When sawing, clamp a straight edge to the sheet as a guide and run the saw base plate along the straight edge when making the cut.



Hole-Forming

For smooth clean cut circular holes:

- Mark the centre of the hole on the sheet
- Pre-drill a 'pilot' hole
- Using the pilot hole as a guide, cut the hole to the appropriate diameter with a hole saw fitted to a heavy duty electric drill



For irregular holes:

- Small rectangular or circular holes can be cut by drilling a series of small holes around the perimeter of the hole then tapping out the waste piece from the sheet face
- Tap carefully to avoid damage to sheets, ensuring that the sheet edges are properly supported

2.1 Storage and Delivery

Keeping products and people safe

Off loading

- ✓ Hardie™ fibre cement products should be off-loaded carefully by hand or by forklift
- ✓ Hardie™ fibre cement products should not be rolled or dumped off a truck during the delivery to the jobsite

Storage

Hardie™ fibre cement products should be stored:

- ✓ In their original packaging
- ✓ Under cover where possible or otherwise protected with a waterproof covering to keep products dry
- ✓ Off the ground – either on a pallet or adequately supported on timber or other spacers
- ✓ Flat so as to minimise bending

Hardie™ fibre cement products must not be stored:

- ✗ Directly on the ground
- ✗ In the open air exposed to the elements

James Hardie is not responsible for damage due to improper storage and handling.

2.2 Tips for Safe and Easy Handling of Axon™ Panel Smooth

- ✗ Do not lift planked products flat and in the middle
- ✓ Carry the products on the edge
- ✓ If only one person is carrying the product, hold it in the middle and spread arms apart to better support the product
- ✓ If two people are carrying the plank, hold it near each end and on edge
- ✓ Exercise care when handling weatherboard products to avoid damaging the edges/corners

3 Design/Framing

3.1 Scope

3.1.1 General

This manual covers the use of the Axon™ Panel Smooth as an external stone/tiling/brick slip substrate in residential and light commercial buildings using a treated timber wall structure that complies with the NZBC for an existing building or new building where the designer and/or installer has established that the external wall frame is suitable for the cladding installation.

Stone/tile/brick slip weight must not exceed 60kg/m².

3.2 Design

3.2.1 General

All design and construction must comply with the appropriate requirements of the current New Zealand Building Code (NZBC) and other applicable regulations and standards. Refer to the nominated waterproofing and tile adhesive third party manufacturer for warrantable systems over Axon™ Panel Smooth.

3.2.2 Responsibility

The specifier or other party responsible for the project must ensure that the details in this specification are appropriate for the intended application and that additional detailing is performed for specific design or any areas that fall outside the scope of this specification.

3.3 Surface Clearances

The clearance between the bottom edge of cladding and paved/unpaved ground must comply with the NZBC Acceptable Solution 'E2/AS1', paragraph 9.1.3.

The finished floor level must also comply with these requirements. These clearances must be maintained throughout the life of the building.

Axon™ Panel Smooth must overhang the bottom plate on a concrete slab by a minimum of 50mm as required by NZS 3604.

Axon™ Panel Smooth must also maintain a minimum clearance as per Figures 4 and 5.

Do not install external stone/tiles/brick slip such that it may remain in contact with water or ground.

3.4 Structural Bracing

The installation of Axon™ Panel Smooth as per this manual is not suitable for bracing application. In order to achieve bracing, use 6mm RAB™ Board fixed direct to frame in accordance with the Bracing Design Manual by James Hardie.

3.5 Fire Rated Walls

Axon™ Panel Smooth clad walls using a cavity construction method can achieve fire ratings up to 60/60/60 when the walls are constructed in accordance with this literature and include the fire rated system requirements as specified in the Fire and Acoustic Design Manual by James Hardie. Refer to the fire and acoustic literature for further information on fire rated systems.

3.6 Moisture Management

It is the responsibility of the specifier to identify moisture related risks associated with any particular building design.

Wall construction design must effectively manage moisture, considering both interior and exterior environments of the building, particularly in buildings that have a higher risk of wind driven rain penetration. The building should also be ventilated sufficiently to control moisture accumulation due to condensation, especially in artificially cooled/heated buildings.

Walls must include those provisions as required by the NZBC Acceptable Solution Clause E2/AS1. In addition, all wall openings, penetrations, junctions, connections, window sills, heads and jambs must incorporate appropriate flashings for waterproofing. The other materials, components and installation methods used to manage moisture in external walls, must comply with the requirements of relevant standards and the NZBC. For further guidance on designing for weathertightness, refer to BRANZ Ltd. and the Ministry of Business Innovation and Employment (MBIE) updates on the following websites respectively, www.branz.co.nz and www.building.govt.nz.

In addition, the following issues must also be considered:

- Sealant must be installed where detailed in this literature.
- Where the walls are higher than two storeys, it is necessary to provide a horizontal flashing at the second floor level to drain the cavity.
- The installation of smoke chimneys, pipe penetrations and other fixtures etc. must not track moisture into the wall or restrict the drainage of moisture to the exterior.

3.7 Flexible Underlay/HomeRAB™ Pre-Cladding

Flexible underlay/HomeRAB™ Pre-Cladding must be provided as per the requirements of External Moisture Clause E2 of the NZBC. The flexible underlay selected for use must comply with Table 23 of E2/AS1.

The flexible underlay must be fixed in accordance with section 9.1.7 of E2/AS1 and the underlay manufacturer's recommendations.

Walls which are not lined on the inside face (e.g. garage walls or gable ends), must include a rigid sheathing or an air barrier behind the cladding which complies with Table 23 of E2/AS1. For attached garages, flexible underlays must be

selected in accordance with the NZBC Acceptable Solution E2/AS1, Paragraph 9.1.3.4. James Hardie HomeRAB Pre-Cladding complies with these requirements and is suitable for use in this situation. It must be installed in accordance with the RAB Board & HomeRAB Pre-Cladding installation manual.

3.8 RAB™ Board or a Rigid Air Barrier

General flexible underlay or HomeRAB Pre-Cladding is suitable for use only up to and including NZS 3604 VH wind zone.

When in an EH wind zone or for specific design projects where the wind pressure is higher than 1.5kPa, a rigid air barrier must be used ie RAB Board instead of flexible underlay or HomeRAB Pre-Cladding.

To achieve temporary weathertight enclosure using rigid air barrier boards by James Hardie the roof must be on and windows/doors need to be installed. Refer to the RAB Board & HomeRAB Pre-Cladding installation manual for information regarding its installation. For other rigid air barriers please refer to that manufacturers technical specification.

3.9 Flashings

All wall openings, penetrations, intersections, connections, window sills, heads and jambs must be flashed prior to the installation of the Axon™ Panel Smooth. Refer to the moisture management requirements in Clause 3.7. The flexible underlay/rigid air barrier must be appropriately incorporated with penetration and junction flashings using flashing tapes. Materials must be lapped in such a way that water tracks down to the exterior on the face of the flexible underlay or rigid air barrier board.

The selected flashing materials must comply with the durability requirements of the NZBC. For information refer to Table 20 of E2/AS1.

When using rigid air barrier boards, the entire framing around openings must be protected with a flashing tape. The tape must be finished over the face of the rigid air barrier. Check the compatibility of flashing tapes and sealants with their manufacturers prior to selection of the materials. Refer to the RAB Board & HomeRAB Pre-Cladding installation manual for further information.

3.10 Framing

The framing must fully support all sheet edges. The framing must be rigid and not rely on the cladding sheet for stability.

All timber framing sizes and set-out must comply with NZS 3604 and as specified in this document. Use of timber framing must be in accordance with the framing manufacturer's specifications.

Studs must be maximum 400m centres with minimum stud width of 45mm.

For timber frame walls longer than 12m, it is best practice to allow for construction joints to accommodate movements generated due to timber shrinkage or deflections etc.

3.11 Timber

Use of timber framing must be in accordance with NZS 3604 (Timber-framed buildings) and the framing manufacturer's specifications.

3.12 Tolerances

In order to achieve the required performance and an acceptable wall finish, it is imperative that framing is straight and true. Framing tolerances must comply with Table 2.1 of NZS 3604 and the manufacturer's specifications. All framing shall be made flush.

3.13 Cavity Closure/Vent Strip

The Hardie™ uPVC cavity vent strip must be installed at the bottom of all walls and above all openings constructed using the drained and ventilated cavity construction method. It is important that the openings in the cavity closure/vent strip are kept clear and unobstructed to allow free drainage and ventilation of cavities. The Hardie™ cavity closure/vent strip has an opening area of 1000mm²/m length.

3.14 Cavity Battens

In accordance with the NZBC Acceptable Solution 'E2/AS1' Table 2, Axon™ Panel Smooth must be installed on a cavity.

The cavity battens provide airspace between the frame and the sheet and are considered a 'packer' only in this specification.

The timber battens must be minimum H3.1 treated in accordance with NZS 3640 (Chemical preservation of rough and sawn timber) to comply with the durability requirements of B2/AS1.

Cavity battens must comply with following requirements:

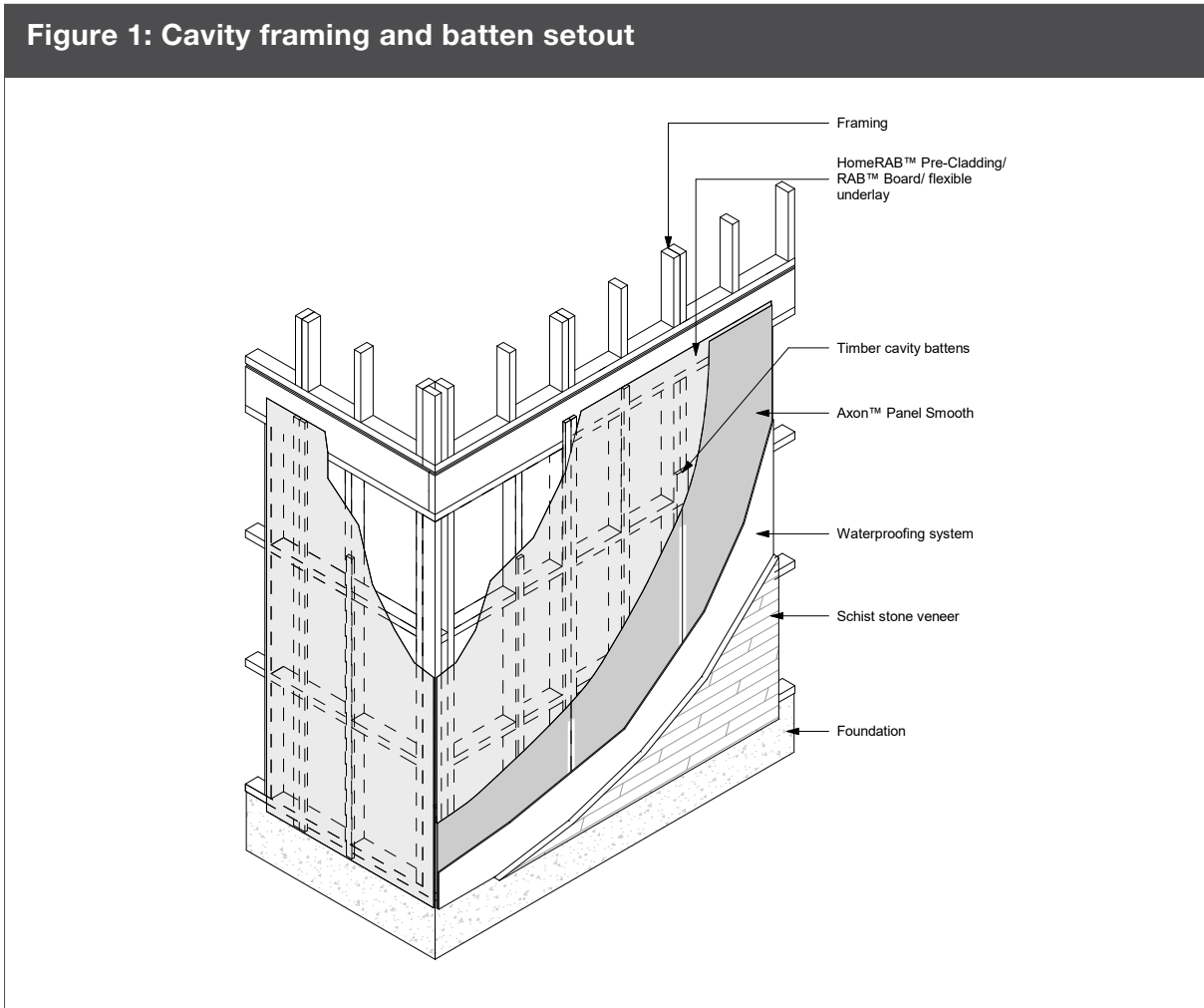
- Be minimum 18mm thick.
- Be minimum as wide as the width of studs.
- Be fixed by the cladding fixings to the main framing through the building underlay.
- Until claddings are fixed the battens only need to be tacked to the framing.

Note: Batten fixing is required temporarily to keep them straight on the wall during construction.

Battens should be fixed with 40 x 2.8mm minimum nails at 800mm centres maximum.

4 Preparation and Fasteners

Figure 1: Cavity framing and batten setout



Notes: Generally, external and internal corners have additional framing requirements. Refer to the external and internal corner details for more information.

4.1 Fasteners

4.1.1 General

Fix Axon™ Panel Smooth to all framing with 60 x 2.87mm RounDrive ring shank nail or 60 x 3.15mm Hardie™ Flex nails, which must be driven flush with the surface of the cladding.

Fastener spacing along all framing must be a maximum 150mm centres, 12mm from sheet edges, 75mm vertically from corners. Refer to Figure 3.

When using a RAB Board or HomeRAB Pre-Cladding the nails should be 75 x 3.15mm Hardie™ Flex nails driven flush with the surface of the cladding.

4.1.2 Fastener Durability

Fasteners must have the appropriate level of durability required for the intended project to comply with the NZBC.

4.2 Sheet Installation

Axon™ Panel Smooth must be installed vertically with all sheet edges fully supported. Centre of sheet joints must coincide with the centre line of the framing member and all sheets are installed in one direction. Refer to Figure 3.

4.3 Sheet Control Joints

Vertical control joints in the Axon™ Panel Smooth must be created every 6m.

Sheet joints must be attached to independent framing and run through to the external tiles. Refer to Figure 7 for details.

Refer to the chosen tile manufacturer for tile control joint detailing and spacing.

4.4 External Tiling

It is recommended that an aluminium angle is used to support the weight of the tiles. The angle is fixed into the frame.

Also refer to stone/tiles and adhesive supplier recommendations. The overall mass of tiles and the support required must be considered and the centred distance between the support angles should be reduced for tiles thicker than 18mm/weight minimum 32kg/m². Refer to Table 4 for recommended spacing of angle supports.

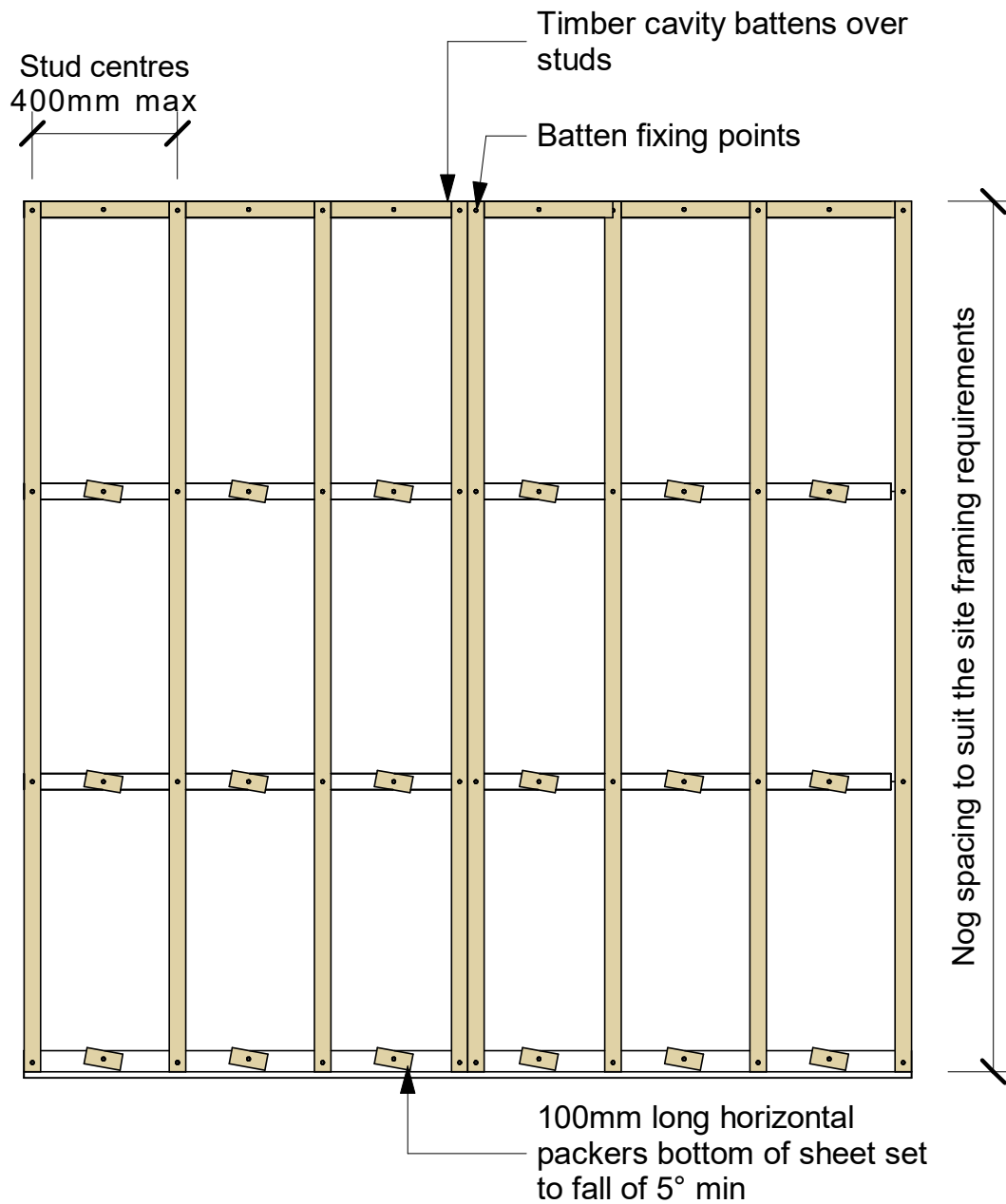
Table 4

Guidance for consideration	
Tile weight per m ² (Kg)	Vertical spacing of support angles (metres, max.)
20 - 30	1.6
31 - 42	1.2
43 - 60	0.8

Table 5

Details	
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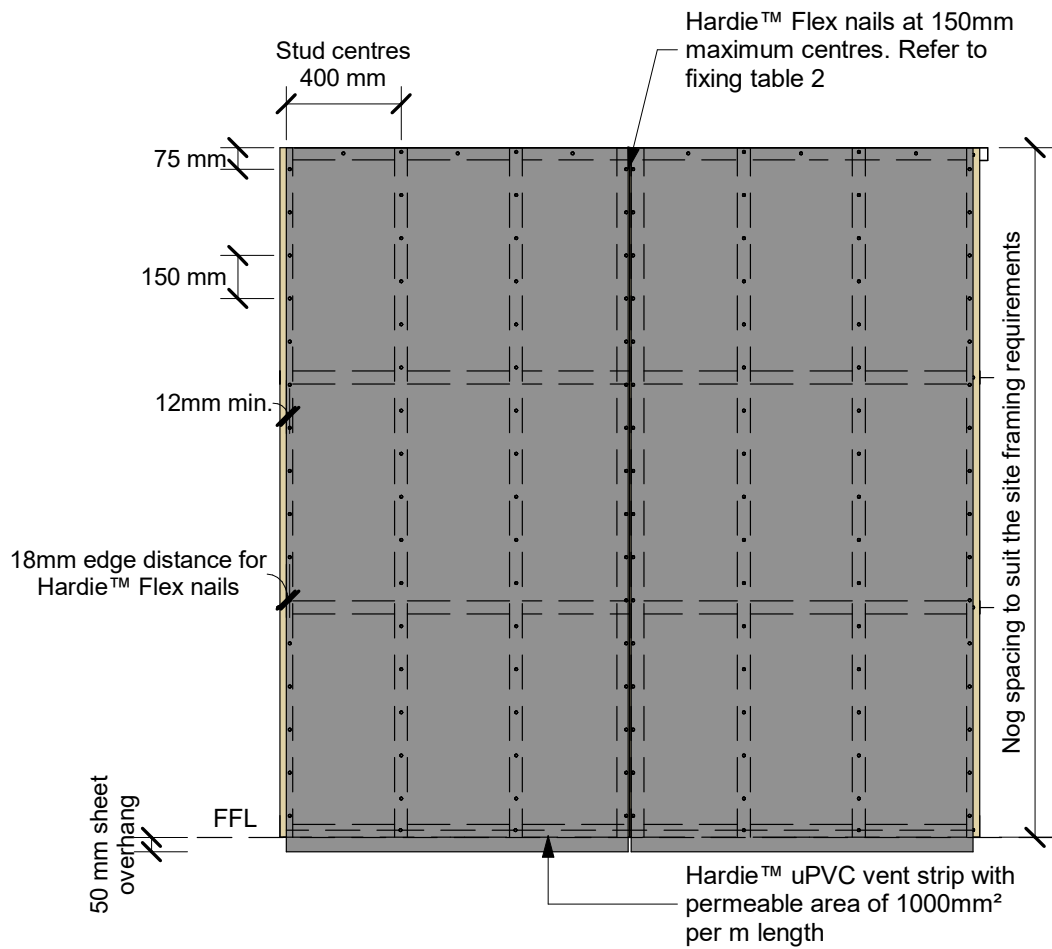
Figure 2: Cavity batten fixing



Note:

- Check Figure 6 and 7 for framing and batten requirements for vertical joint
- For fire rated wall systems by James Hardie nog spacing must be 800mm centres maximum

Figure 3: Cavity sheet fixing setout



Note:

- Axon™ Panel Smooth must be fixed vertically

Figure 4: Cavity concrete footing

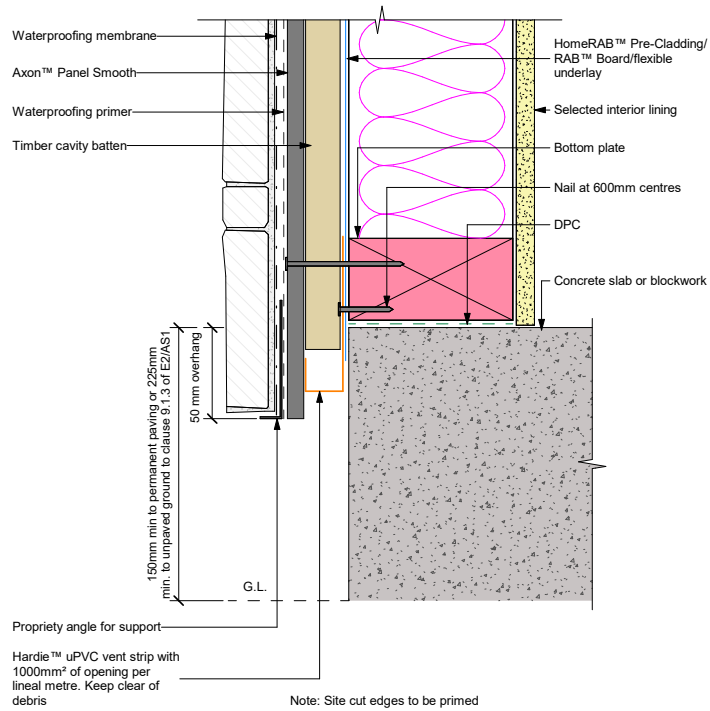
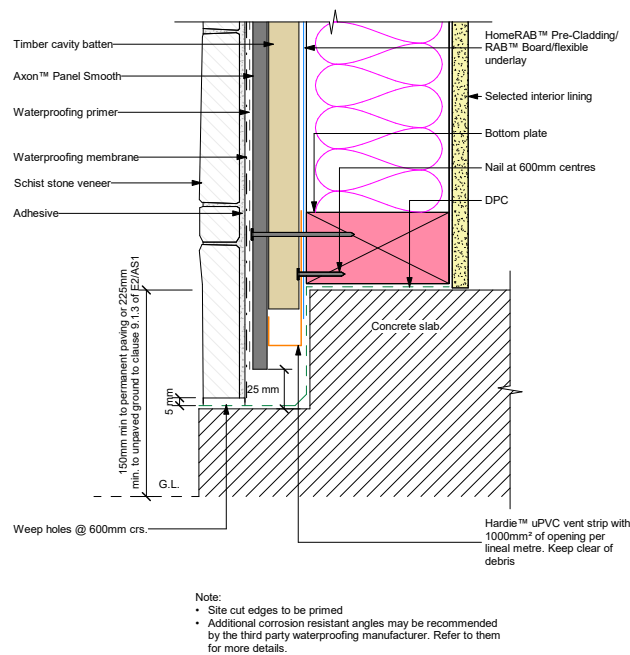


Figure 5: Cavity concrete footing with weep holes



Note: Support angles are fixed through the panel into the timber frame.

Figure 6: Vertical sheet joint

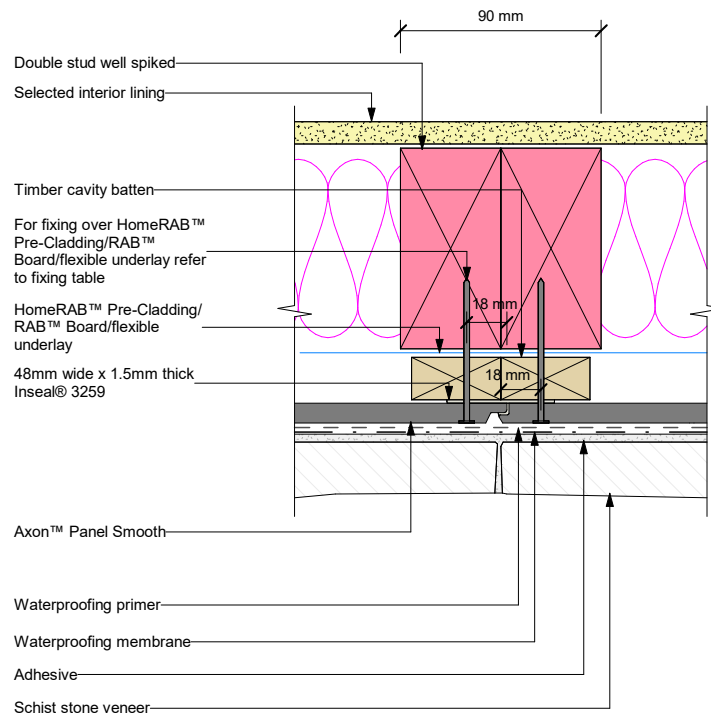


Figure 7: Cavity vertical control joint setout

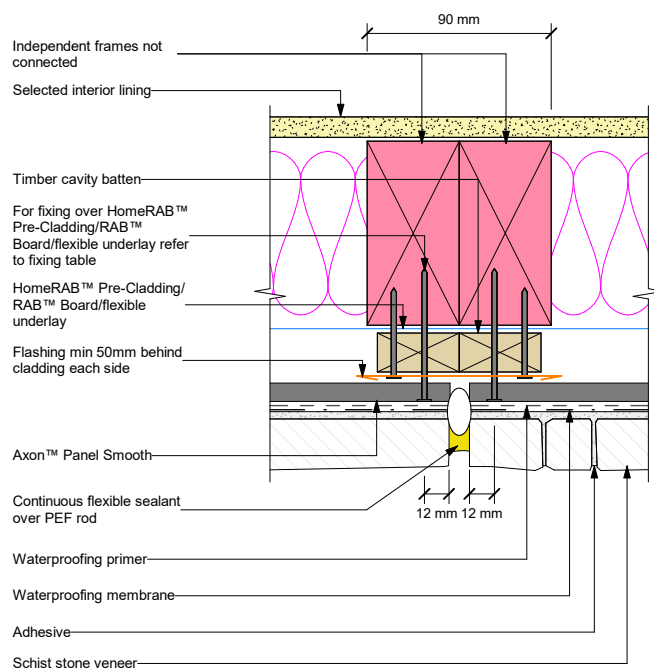


Figure 8: Cavity external corner

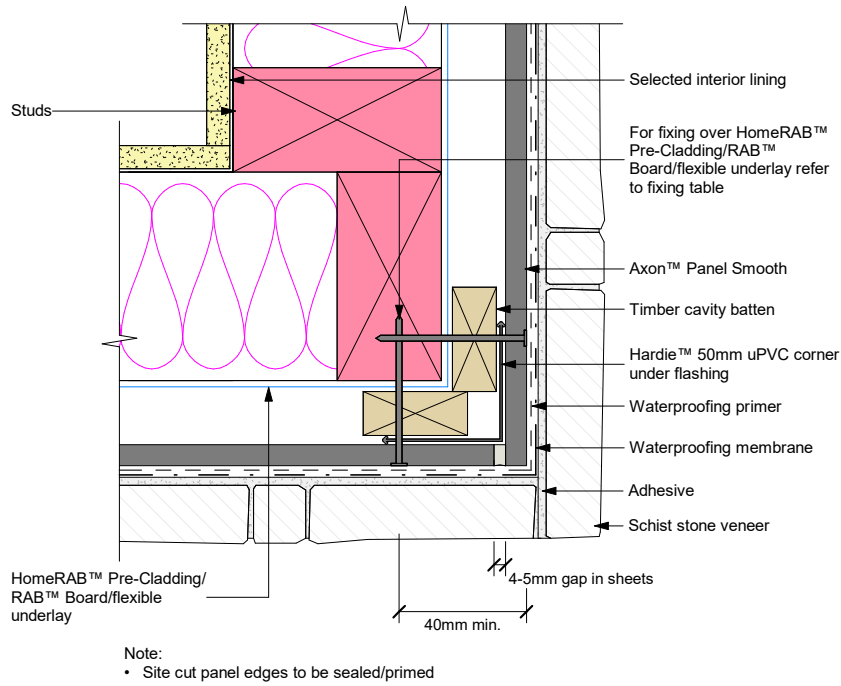


Figure 9: Cavity internal corner

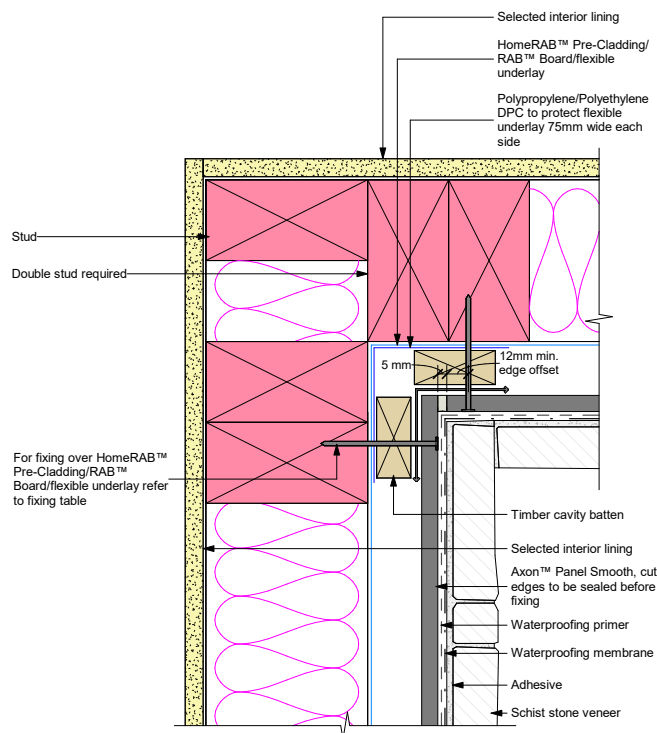


Figure 10: Stone column

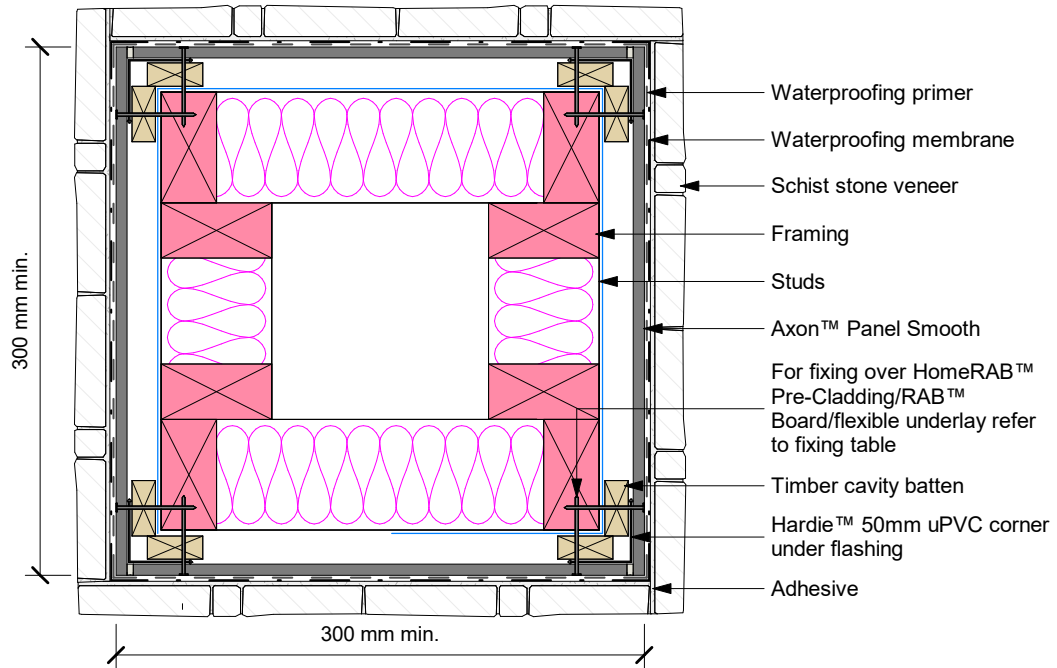


Figure 11: Internal aluminium corner

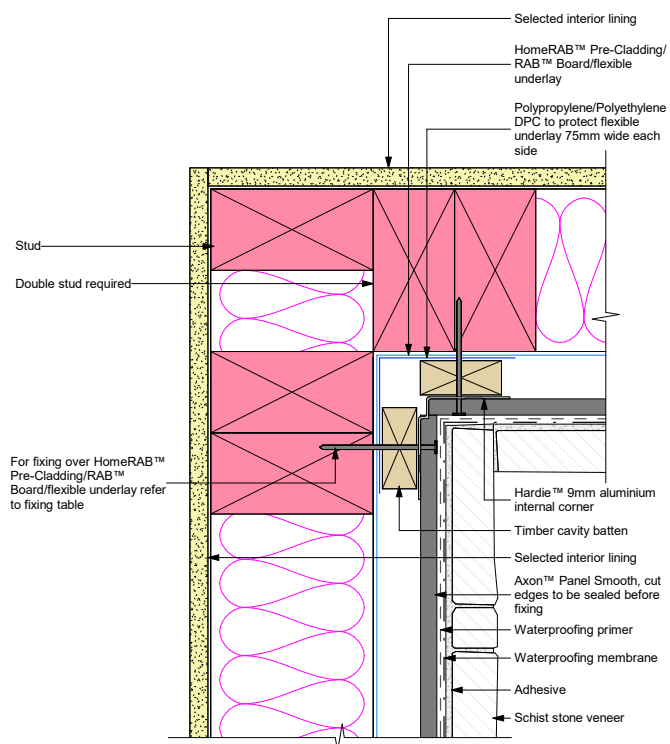
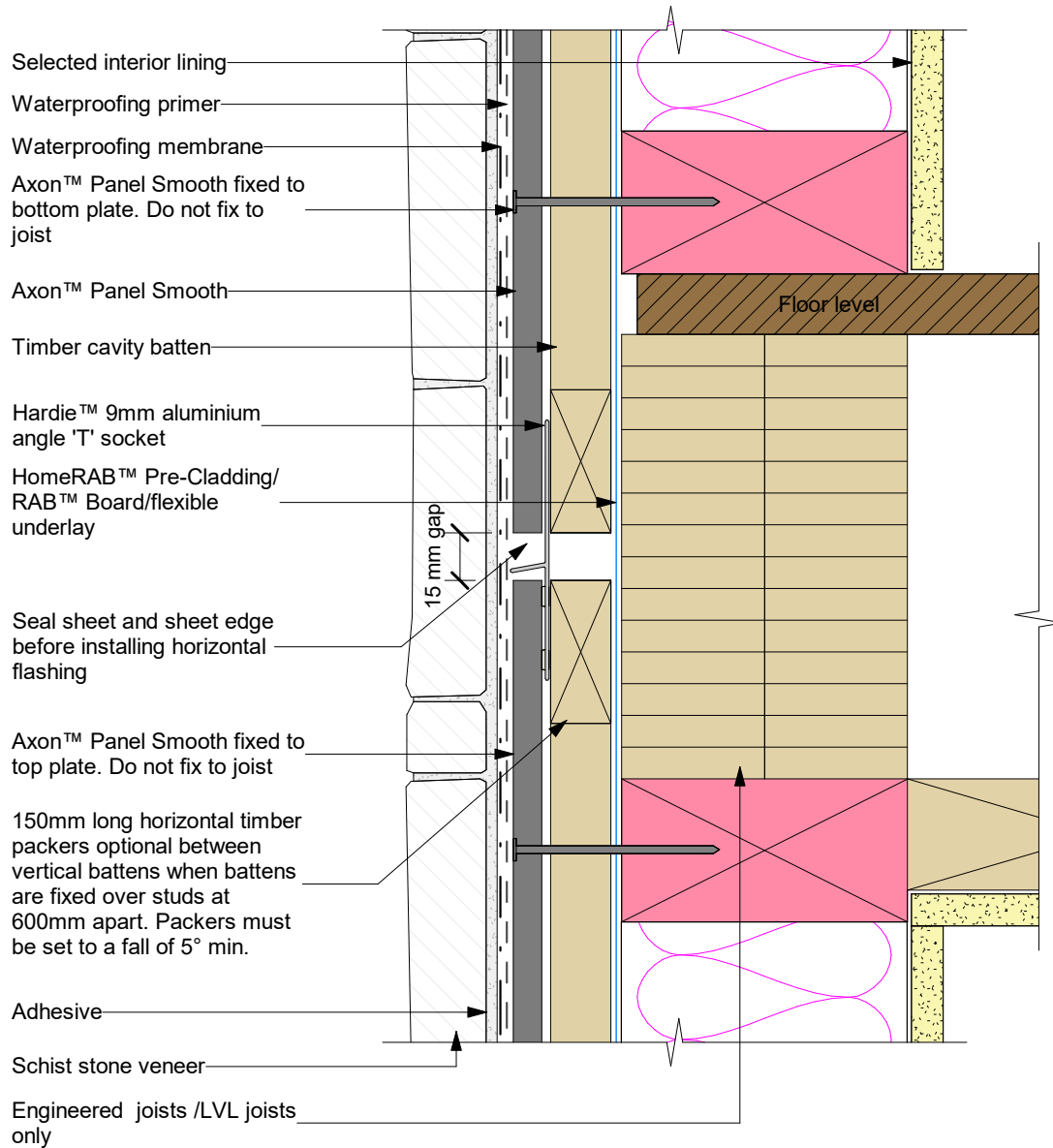
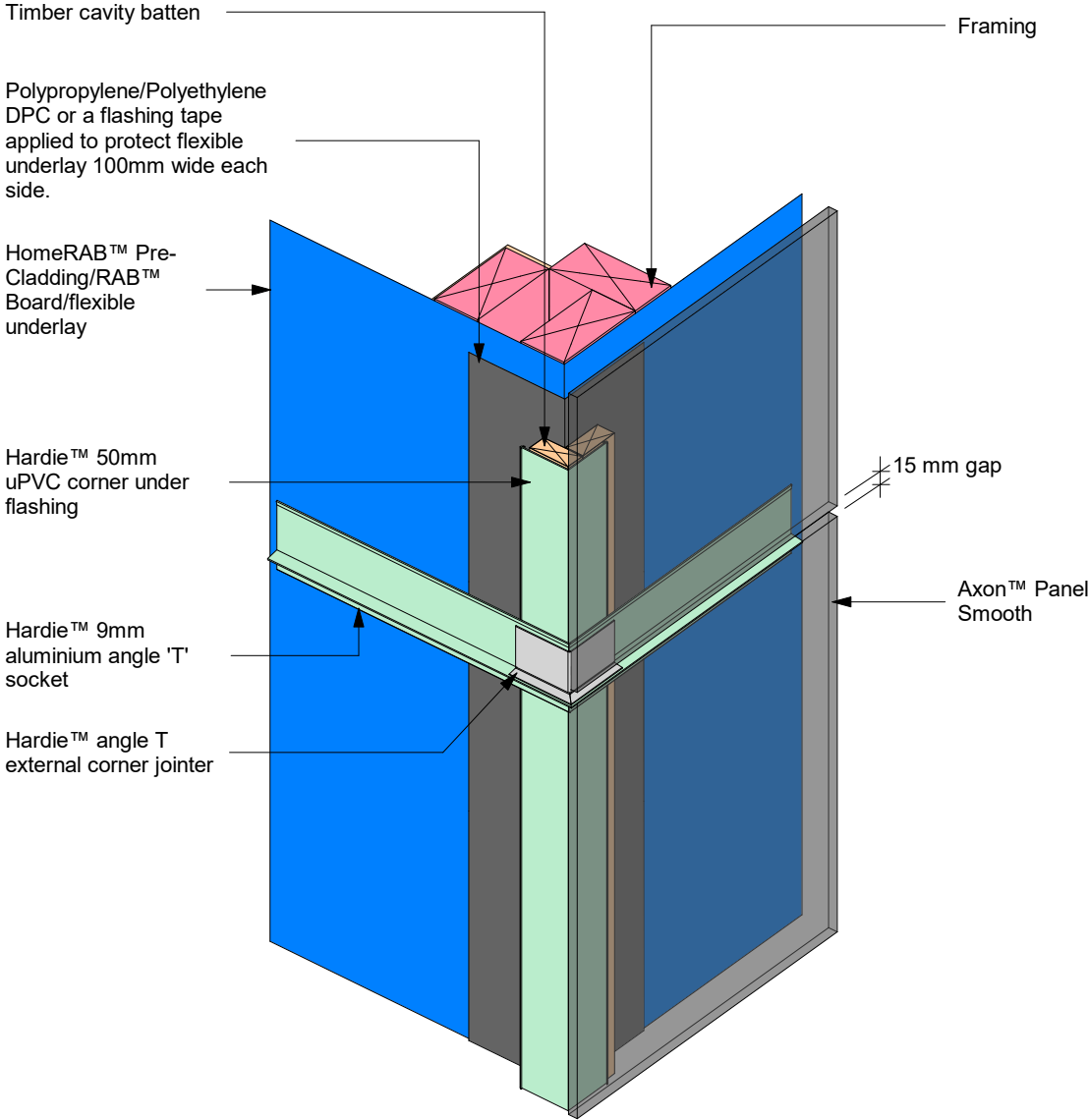


Figure 12: Horizontal joint at floor joist



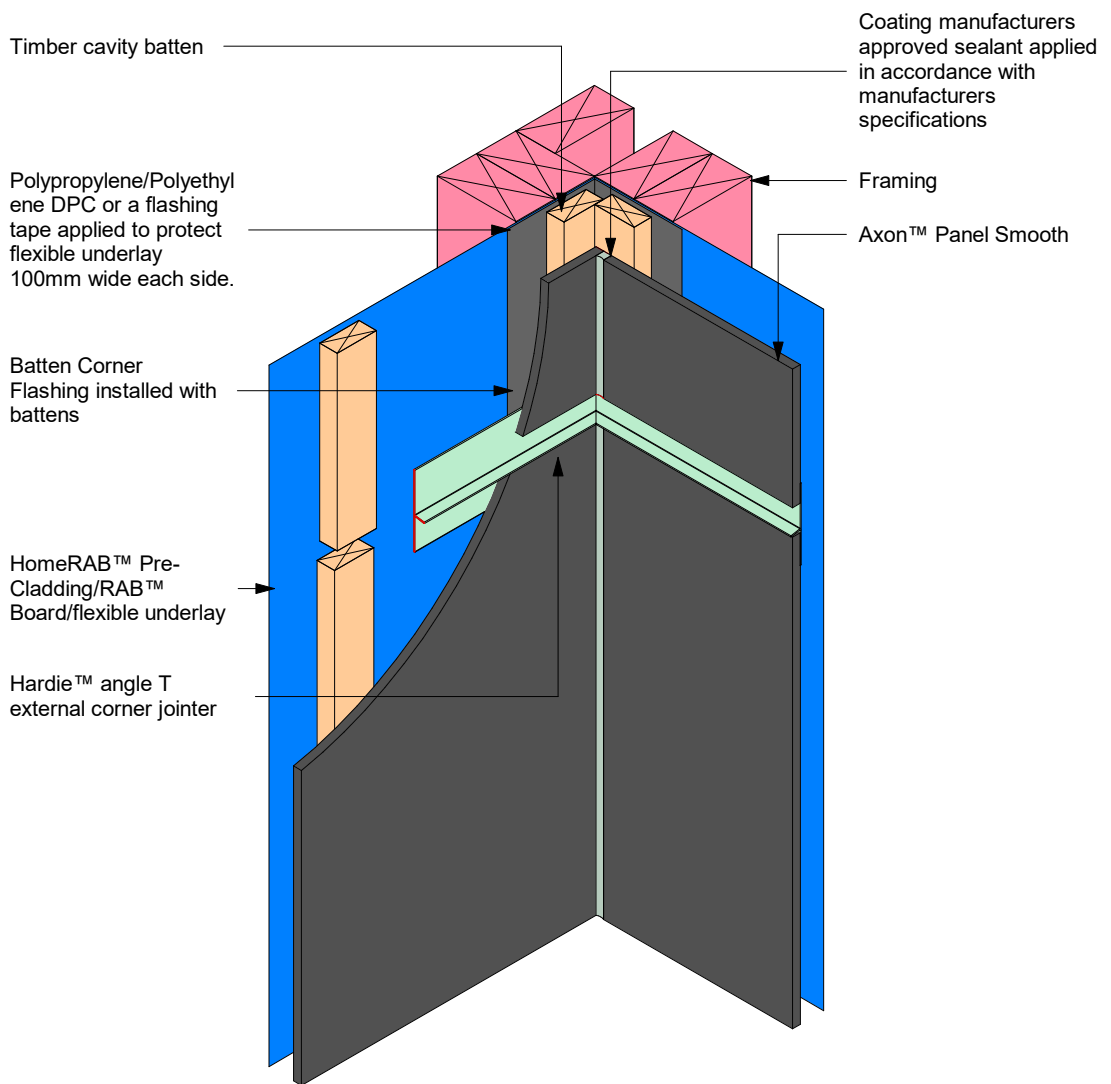
Note: When 50 year durability is required refer Table 20 of NZBC E2/AS1 document.

Figure 14: External corner at 'h' mould joint detail



Note: Site cut edges to be primed

Figure 15: Internal corner at 'h' mould joint detail



5 Waterproofing System and Tiling

5.1 Waterproofing System

It is mandatory to apply a third party waterproofing system over the Axon™ Panel Smooth before the application of stone/tiles/brick slip.

Only use BRANZ appraised/tested waterproofing systems that are warranted by their manufacturers for this application. Few companies that we recommend are:

- Sika® NZ
- Craftstone®
- Ardex™ NZ Ltd
- Bostik™ NZ Ltd

Waterproof system and finish must be applied to the Axon™ Panel Smooth within 3 months of installation. Keep sheets dry during this period. Refer to the third party waterproofing companies on their waterproofing system recommendations at sheet joints, junctions, and edges to maintain the wall waterproofing integrity.

The waterproofing system must be installed by a licensed/accredited applicator who will provide a waterproofing warranty.

5.2 Stone/Tile/Brick Slip Adhesive

Refer to stone/tile/brick slip suppliers/manufacturers specifications to select a suitable adhesive. It is recommended to use a flexible adhesive for exterior application that is compatible with all other materials.

The installer must ensure that the adhesive is:

- Compatible with the third party waterproofing system used
- Sufficiently flexible for the application
- Approved by the adhesive manufacturer for use over fibre cement
- Correct for the type of stone/tile/brick slip being used (e.g. marble). Additives in the tile adhesive may be required.

Mastic type tile adhesives are not recommended.

5.3 Stone

Stack stone systems can also be applied over Axon™ Panel Smooth when installed as per this manual.

5.4 Tiles

Refer to tile manufacturer for tiles suitable for external applications.

If the tile weight exceeds 32kg/m² or 18mm in thickness, additional angle supports may be needed. For information on suitable waterproofing, tile adhesive and tiles, including installation instructions and warranty, refer to waterproof tile adhesive and tile manufacturers. Moisture sensitive tiles are not recommended.

Maximum allowable tile weight is 60kg/m². Large format ceramic, porcelain tiles are not recommended.

5.5 Tile Control Joints

Refer to “Good Tiling Practice” or the waterproofing and tile adhesive supplier/manufacturer for guidance on providing control joints.

The compatibility between the tile waterproofing membranes, tile adhesives and grouts etc. must be checked with their suppliers before the commencement of the job.

6 Maintenance

It is the responsibility of the specifier to determine normal maintenance requirements to comply with the NZBC Acceptable Solution B2/AS1. The extent and nature of maintenance will depend on the geographical location and exposure of the building. As a guide, it is recommended that basic normal maintenance tasks shall include but not be limited to:

- Maintaining the exterior envelope and connections including grouts, joints, penetrations, flashings and sealants that may provide a means of moisture entry beyond the exterior cladding.
- Cleaning out gutters, blocked pipes and overflows as required.
- Pruning back vegetation that is close to or touching the building.
- Cavity weep holes must be kept clear/open at all times.

7 Product Information

7.1 Manufacturing and Classification

Axon™ Panel Smooth are a cellulose fibre reinforced cement building product. The basic composition is Portland cement, ground sand, cellulose fibre and water. The sheets are easily identified by the name 'Axon™ Panel' printed at regular intervals on the back face of sheet.

Axon™ Panel Smooth are manufactured in Australia to AS/NZS 2908.2 'Cellulose-Cement Products Part 2: Flat Sheets' (ISO 8336 'Fibre Cement Flat Sheets'). James Hardie is an ISO 9001 certified manufacturer.

Axon™ Panel Smooth are classified Type A, Category 3 in accordance with AS/NZS 2908.2 'Cellulose-Cement Products'.

For Safety Data Sheets (SDS) visit www.jameshardie.co.nz or Ask James Hardie on 0800 808 868.

7.2 Product Mass

Axon™ Panel Smooth are 9mm thick and have a mass of 13kg/m² at EMC.

7.3 Durability

Axon™ Panel Smooth, when installed and maintained as per the technical specification, will meet the durability requirements for claddings as required in the NZBC Approved Document B2 'Durability'.

7.3.1 Resistance to Moisture/rotting

Axon™ Panel Smooth demonstrates resistance to permanent moisture induced deterioration (rotting) and has passed the following tests in accordance with AS/NZS 2908.2:

- Heat Rain (Clause 6.5)
- Water Permeability (Clause 8.2.2)
- Warm Water (Clause 8.2.4)
- Soak Dry (Clause 8.2.5)

7.3.2 Fire Performance

Axon™ Panel Smooth has been tested/assessed to AS/NZS 3837 and are suitable for use where non-combustible materials are specified.

7.3.3 Alpine Regions

In regions subject to freeze/thaw conditions, Axon™ Panel Smooth must not be in direct contact with snow or ice build up for extended periods, e.g. external walls in alpine regions must be protected where snow drifts over winter is expected.

The Axon™ Panel Smooth has been tested in accordance with AS/NZS 2908.2 Clause 8.2.3.

Product Warranty

NEW ZEALAND | Effective August 2024

This warranty is given by James Hardie New Zealand Limited (“James Hardie”, “we”, “its” and “us”).

In this warranty:

- **“Consumer”** has the meaning given to it in the Consumer Guarantees Act; ;
- **“Product”** refers to the item listed below:

Axon™ Panel

- **“Technical Literature”** means the product specific installation guide published by James Hardie at the time of installation of the product (copies of the current installation instructions are available at jameshardie.co.nz or by calling Ask James Hardie™ on 0800 808 868); and
- **“Warranty Period”** means fifteen (15) years.

Warranty

1. Subject to the conditions and limitations set out below, we warrant that for the Warranty Period from the date of purchase, the Product will be free from defects due to defective factory workmanship or materials.
2. James Hardie further warrants that for a period of 15 years from the date of purchase of the Product that any associated accessories supplied by us will be free from defects due to defective factory workmanship or materials.
3. James Hardie warrants that at the time of manufacture the Product will comply with AS/NZS 2908.2:2000 Cellulose-cement products - Flat sheet.
4. This warranty is not transferable and is only provided to and may only be relied upon by:
 - (a) the first purchaser of the Product or accessory from James Hardie; and
 - (b) the last purchaser of the Product or accessory prior to installation.
5. If a breach of this warranty occurs, we will (at our option) either: supply replacement Product or accessory; rectify the affected Product or accessory; or pay for the reasonable and substantiated cost of the replacement or rectification of the affected Product or accessory.

Warranty Conditions

6. You may only claim under this warranty if:
 - (a) the Product was installed and maintained strictly in accordance with the Technical Literature including the components or products specified or recommended in the Technical Literature; and
 - (b) other products applied to or used in conjunction with the Product are applied or installed and maintained strictly in accordance with the relevant manufacturer’s instructions and good trade practice; and
 - (c) the Product is used in an application designed and constructed in strict compliance with all relevant provisions of the New Zealand Building Code (**“NZBC”**), applicable laws, regulations and standards; and
 - (d) we are given reasonable opportunity to inspect the Product **before** any attempt is made to repair or remove the Product once it has been installed; and
 - (e) the requirements for bringing a claim under the warranty as set out in clause 8 are complied with.

7. Subject to clauses 10 and 11:

- (a) to the fullest extent permitted by law, we exclude all:
 - (i) other warranties, conditions, liabilities and obligations which may otherwise apply in respect of the purchase or use of the Product and/or its Technical Literature, other than those specified in this warranty; and
 - (ii) liability for any loss or damage (whether direct or indirect) including property damage or personal injury, consequential loss, economic loss or loss of profits, the purchase or use of the Product and/or its Technical Literature whether arising in contract, tort (including negligence), statute or equity.
- (b) if or to the extent that it is not permitted by law to so limit our liability as set out in clause 7(a), then to the fullest extent permitted by law, we limit our liability at our option to:
 - (i) the replacement of the Product or accessory or the supply of equivalent Product or accessory;
 - (ii) the repair of the Product or accessory;
 - (iii) the payment of the cost of replacing the Product or accessory, or of acquiring equivalent Product or accessory; or
 - (iv) the payment of the reasonable and substantiated cost of having the Product or accessory repaired;
- (c) this warranty does not cover defects which are not due to defective factory workmanship or materials, including but not limited to damage or defects caused by or arising from or attributable to:
 - (i) use of the Product in applications not recommended by us or in accordance with the Technical Literature;
 - (ii) the Product being subjected to abnormal treatment including impact, abrasion or mechanical action;
 - (iii) surface marking, scratches or stains arising during or after the installation of the Product;
 - (iv) poor workmanship or installation, poor design or detailing, settlement or structural movement and/or movement of materials to which the Product is attached;
 - (v) incorrect design of the structure;
 - (vi) acts of God including but not limited to earthquakes, fire, cyclones, floods or other severe weather conditions or unusual climatic conditions;
 - (vii) efflorescence, normal wear and tear, growth of mould, mildew, fungi, bacteria, or any organism on any Product surfaces or Product (whether on the exposed or unexposed surfaces);

- (viii) contact with chemicals such as solvents, detergents and pollutants, or exposure to a harsh chemical environment or an excessively salty environment;
- (ix) use of adhesive tapes, sealants or mastics on the Product, or recoating of the surface of the Product outside of the recommended maintenance guidelines in the Technical Literature; or
- (x) failure of third party coating systems, including but not limited to sealers and paints; and
- (xi) **this warranty does not cover** any variation in the look of the Product including but not limited to: any variation in colour or surface pattern; any variation between different batches of the Product; or any variation against any sample material provided. The architect/builder/installer must ensure **prior to specification** that variation in look between items of Product is acceptable and ensure that each item of Product meets all aesthetic requirements **prior to installation**. Subject to the terms of this warranty, after installation of the Product, **we are not liable** for claims arising from aesthetic variations or defects if such variations or defects were, or would upon reasonable inspection have been, **apparent prior to installation**.

Making a Claim Under Warranty

If you are the property owner and did not purchase the product yourself, and you believe you have any issue with James Hardie product installed at your home, in the first instance you should contact the builder who purchased and installed the product. If you purchased the product yourself, you can make a claim under this warranty as detailed below.

8. In order to make a claim under this warranty, you must provide the following information in writing to us using the contact details below within 30 days after the alleged defect would have become reasonably apparent or, if the defect was reasonably apparent prior to installation, then the claim must be made prior to installation:
 - (a) proof of purchase;
 - (b) description of the defect and the issue;
 - (c) photographs of the defect; and
 - (d) your contact details.
9. Subject to New Zealand Consumer Law, you must bear any expenses you incur as a result of claiming under this warranty, except where you are entitled to recover such expenses under the New Zealand Consumer Law, in which case we will bear or otherwise reasonably compensate you for such expenses. All claims for such expenses are to be notified to us in writing within 21 days from the later of: when you make a claim under this warranty; or when we notify you that we, acting reasonably, accept responsibility for these expenses.

New Zealand Consumer Law

10. If you acquire the Product or accessories manufactured or supplied by us as a Consumer, that Product or accessories may come with guarantees that cannot be excluded under the Consumer Guarantees Act. If so, and we are a supplier, you are entitled to a replacement or refund for a failure of a substantial character or a failure that cannot be remedied, and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality or fail to meet some other guarantee and can be remedied and the failure is not of a substantial character. Where we or a related entity are the manufacturer, then you will have the rights set out in the Consumer Guarantees Act if the goods do not comply with this warranty or the consumer guarantees under the Consumer Guarantees Act.
11. Other than as lawfully excluded or limited by the other terms of this warranty, any rights a Consumer may have under this warranty are in addition to other rights and remedies of a Consumer under a law in relation to the goods to which this warranty relates. Nothing in this warranty shall exclude or modify any legal rights a purchaser and/or Consumer may have under the Consumer Guarantees Act, Fair Trading Act or otherwise which cannot be excluded or modified at law.

Disclaimer

The recommendations in James Hardie's literature are based on good building practice but are not an exhaustive statement of all relevant information. Further, as the successful performance of the relevant system depends on numerous factors outside the control of James Hardie (e.g. quality of workmanship and design) James Hardie shall not be liable for the recommendations made in that Technical Literature and the performance of the relevant system, including its suitability for any purpose or ability to satisfy the relevant provisions of the NZBC, laws, regulations and standards. It is the responsibility of the building designer to ensure that the details and recommendations provided in the relevant James Hardie Technical Literature are suitable for the intended project and that specific design is conducted where appropriate.

Our Contact Details

James Hardie New Zealand Limited

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Telephone: "Ask James Hardie™" on 0800 808 868

Website: www.jameshardie.co.nz

Email: info@jameshardie.co.nz

