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Hardie™ Plank Weatherboard

Hardie™ Plank Weatherboard

Technical Specification

November 2021 New Zealand





We value your feedback!

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 Application and Scope

1.1 Application

Hardie™ Plank Weatherboards are made of fibre cement. They are categorised as a lightweight cladding product as per NZS 3604.

Hardie™ Plank Weatherboard

Hardie™ Plank Weatherboard (7.5mm) is available in two widths (180mm and 300mm) and has a smooth finish.

Specifier

If you are a specifier or other responsible party for a project, ensure that the information in this document is appropriate for the application you are planning and that you undertake specific design and detailing for areas which fall outside the scope of these specifications.

Installer

If you are an installer ensure that you follow the design, moisture management principles, and associated details and material selection provided by the designer. All the details provided in this document must be read in conjunction with the specifier's specification.

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.

1.2 Scope

This specification covers the use of Hardie™ Plank Weatherboard for buildings that fall within the scope of the NZS 3604 and the NZBC Acceptable Solution 'E2/AS1', paragraph 1.1. The specification covers the use of Hardie™ Plank Weatherboard in both direct fixed and cavity construction methods. Please refer to 'E2/AS1' for further information regarding the selection of construction method for claddings.

1.3 Details

Various Hardie™ Plank Weatherboard details are provided in the Details section of this document. This specification and details in CAD file are also available to download from our website at www.jameshardie.co.nz.

1.4 Specific Design

For use of Hardie™ Plank Weatherboard outside the scope of this document, the architect, designer or engineer must undertake specific design. For advice on designs outside the scope of this specification, Ask James Hardie on 0800 808 868.

2 Design

2.1 Compliance

Hardie™ Plank Weatherboards comply with section 9.5.2 of 'E2/AS1'. Information contained in this document regarding the installation of Hardie™ Plank Weatherboards are aligned with 'E2/AS1' of the New Zealand Building Code (NZBC).

2.2 Responsibility

The specifier or other party responsible for the project must ensure that the information and 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 technical specification. For applications outside the scope of this literature and details which are not provided herein, the architect, designer or engineer must undertake specific design and it should be ensured that the intent of their design meets the requirements of the NZBC.

All dimensions shown are in millimetres unless noted otherwise. All New Zealand Standards referenced in this manual are current edition and must be complied with.

James Hardie conduct stringent quality checks to ensure that any product manufactured falls within our quality spectrum. It is the responsibility of the builder to ensure that the product meets aesthetic requirements before installation. James Hardie will not be responsible for rectifying obvious aesthetic surface variations following installation.

2.3 Site and Foundation

The site on which the building is situated must comply with the NZBC Acceptable Solution 'E2/AS1' 'Surface Water'. Foundation design must comply with the requirements of NZS 3604 'Timber-framed Buildings' or be as per specific engineering design. The grade of adjacent finished ground must slope away from the building to avoid the possibility of water accumulation in accordance with the NZBC requirements.

2.4 Surface Clearances

The clearance between the bottom edge of the cladding and paved/unpaved ground must comply with section 9.1.3 of E2/AS1. The finished floor level must also comply with these requirements. These clearances must be maintained throughout the life of the building.

Hardie™ Plank Weatherboard must overhang the bottom plate on a concrete slab by a minimum of 50mm, as required by NZS 3604.

Hardie™ Plank Weatherboard must have a minimum clearance of 100mm from paved ground and 175mm from unpaved ground.

On roofs and decks the minimum clearance must be 50mm.

Do not install external cladding such that it may remain in contact with water or ground.

2.5 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 the interior and exterior environments of the building, particularly in buildings that have a higher risk of wind driven rain penetration or that are artificially heated or cooled.

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

2.6 Structure

Timber-framed buildings must be designed in accordance with NZS 3604 (Timber-framed buildings). When the framing is provided as per the specific engineering design, the framing stiffness must be equivalent to, or more than, the stiffness requirements of NZS 3604. For timber frame walls longer than 12m, it is best practice to allow for construction joints to allow movements generated due to timber shrinkage or deflections etc.

2.7 Wind Loading

Hardie™ Plank Weatherboards are suitable for use in all wind zones in New Zealand up to and including EH as defined in NZS 3604.

A specific design is required for all situations where a building falls in a specific engineering design (SED) wind zone.

2.8 Fire Rated Walls

Walls clad with Hardie™ Plank Weatherboard using a direct fix or cavity construction method can achieve fire ratings of up to 60/60/60 to comply with C/AS1 of the NZBC, when constructed in accordance with this literature, including the fire rated system requirements as specified in the Fire and Acoustic Design Manual by James Hardie. Refer to this design manual for further information about fire rated systems.

2.9 Energy Efficiency

External walls constructed as per this technical specification, using Hardie™ Plank Weatherboard cladding must use suitable bulk insulation to meet the minimum thermal insulation requirements as per Clause H1/AS1 'Energy Efficiency' of the NZBC.

3 Framing

3.1 General

This Hardie™ Plank Weatherboard technical specification is only suitable for timber-framed buildings. Other framing materials are outside the scope of this specification.

3.2 Structural Grade

Minimum timber grade selected for external wall framing must be in accordance with NZS 3604.

3.3 Durability

To comply with the NZBC requirements the external framing must be treated to a minimum H1.2 treatment. Refer to the NZBC Acceptable Solution B2/AS1 'Durability' for further information about the durability requirements.

For timber treatment information refer to NZS 3602 (Timber and Wood-Based Products for use in Buildings) and NZS 3640 (Chemical Preservation of Round and Sawn Timber) for minimum timber treatment selection and treatment requirements.

Also refer to framing manufacturer's literature for further guidance on timber selection. Framing must be protected from moisture at sites in accordance with the recommendations of framing manufacturer's.

Note: Refer to NZS 3602 for information about the allowable moisture contents in timber.

3.4 Frame Construction

All timber framing sizes and set-out must comply with NZS 3604 and stud, nogs/dwangs centres as required by this specification.

Use of timber framing must be in accordance with framing manufacturer's specifications.

In case of gable end trusses sitting on top plate of external wall frame, the frame size must be in accordance with truss design and specification supplied by the frame and truss manufacturer/supplier supported by independent design producer statement.

3.4.1 Direct Fix Construction Method

Buildings with a risk score of 1-6 calculated in accordance with the NZBC Solution 'E2/AS1' Table 2, Hardie™ Plank Weatherboard can be direct fixed.

The following framing must be provided for direct fixed construction method:

- Studs must be provided at 600mm centres maximum
- Nogs must be provided at 1200mm centres maximum
- Double studs will be required at internal corners for fixing weatherboards without drilling the weatherboard ends

3.4.2 Cavity Construction Method

Buildings with a risk score of 7-20 calculated in accordance with the NZBC Acceptable Solution 'E2/AS1' Table 2 requires Hardie™ Plank Weatherboard to be installed on a cavity.

The following framing must be provided for cavity construction method:

- When studs are at 600mm centres the nogs must be provided at 800mm centres maximum
- When studs are at 400mm centres the nogs may be provided at 1200mm centres maximum
- Double studs are required at internal corners
- Extra packers may be required at external corners

3.5 Tolerances

In order to achieve an acceptable wall finish, it is imperative that framing is straight and true.

Framing tolerances must comply with the requirements of NZS 3604.

4 Preparation

4.1 HomeRAB™ Pre-Cladding or Flexible Underlay

HomeRAB™ Pre-Cladding or flexible underlay must be provided as per the requirements of the NZBC Acceptable Solution 'E2/AS1' 'External Moisture' and NZS 3604.

The flexible underlays must comply with Table 23 of 'E2/AS1'. The flexible underlays must be fixed in accordance with 'E2/AS1', NZS 3604 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 the requirements of the NZBC 'Acceptable Solution' 'E2/AS1'. HomeRAB™ Pre-Cladding is suitable for use in these applications. It must be installed in accordance with RAB™ Board & HomeRAB™ Pre-Cladding Installation Manual.

4.2 RAB™ Board or a Rigid Air Barrier

In EH wind zone or for specific design wind zone, a rigid air barrier ie RAB™ Board, must be used instead of flexible underlay. To achieve the temporary weathertightness using pre-cladding products from James Hardie, windows/doors must be installed with required flashing tapes and seals etc. Refer to RAB™ Board & HomeRAB™ Pre-Cladding installation manual for information regarding its installation and requirements to achieve temporary weathertightness. For other rigid air barriers please refer to that manufacturers technical specification.

4.3 Flashing

All wall openings, penetrations, intersections, connections, window sills, heads and jambs must be flashed prior to weatherboard installation. Please refer to moisture management requirements in Clause 2.5. The flexible underlays must be appropriately incorporated with penetration and junction flashings. Materials must be lapped in such a way that water tracks down to the exterior on the face of flexible underlay.

The selected flashing materials must comply with the durability requirements of Table 20 of Acceptable Solution 'E2/AS1'.

4.4 Vent Strip

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

4.5 Cavity Battens

The battens provide airspace between the frame and cladding 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 round and sawn timber) to comply with the durability requirements of B2/AS1.

Cavity battens must comply with 'E2/AS1' and

- 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 flexible underlay
- Until claddings are fixed the battens need only to be tacked to framing. Batten fixing is required temporarily to keep them straight on the wall during construction.

The cavity battens are installed as described below:

- Fix cavity battens to studs
- Battens must be fixed with 40 x 2.8mm galvanised nails at 800mm centres maximum

4.6 Intermediate Support

Where studs are at 600mm centres an intermediate means of restraining the flexible underlay and insulation from bulging into the cavity shall be installed. An acceptable method to achieve this is using one of the following options as per E2/AS1:

- Intermediate cavity batten between the studs
- 75mm galvanised mesh
- Polypropylene tape at 300mm centres fixed horizontally and drawn taut

No intermediate supports are required where

- Studs are at 400mm centres or
- Rigid air barriers instead of flexible underlays are used

4.7 Corners

Anticipated joist shrinkage must be allowed for in the design process. Do not run trims or aluminium extrusions continuously across solid floor joists. Trims or extrusions to be flashed to best trade practice at these locations.

4.8 External Corners

Hardie™ Plank Weatherboard shall be finished at external corners using aluminium corner mould, corner soakers or box corner. Refer to Figures 5, 6, 7, 19, 20 and 21.

4.9 Internal Corners

Hardie™ Plank Weatherboard shall be finished at internal corners using aluminium 'W' moulds. Refer to Figures 8, 9, 22 and 23.

4.10 Junctions and Penetrations

Refer to Clause 2.5 of this specification for moisture management requirements. All windows and doors must be detailed as per the requirements of this specification. James Hardie has developed the window details for Hardie™ Plank Weatherboard which meet the requirements of E2 'External Moisture' approved document of the NZBC. Refer to Figures 11 to 13 and Figures 25 to 33.

5 Fixing

5.1 General

The horizontal lap of Hardie™ Plank Weatherboard must be 30mm minimum. Hardie™ Plank Weatherboard must be kept dry and under cover whilst in storage prior to and during fixing.

Ends which are exposed such as internal corners or where sealant is applied to the boards must be primed prior to installation. Dust and loose material must be removed before priming.

An H3.1 treated timber cant strip must be provided to support the bottom board on the wall. Refer to Figures 3 and 17.

5.2 Fastener Durability

Fasteners must meet the durability requirements of the NZBC. NZS 3604 specifies requirements for fixing material to be used in relation to the exposure conditions and are summarised below in Table 1.

Table 1

Exposure conditions and nail selection prescribed by NZS 3604		
Zone	Application	
D (sea spray) and geothermal hot spots	General	Stainless steel 304/316
	Fire	
	Bracing	
C and B*	General	Hot dip galvanised **
	Fire	
	Bracing	

* Zone C areas where local knowledge dictates that increased durability is required, appropriate selection shall be made. Microclimate conditions as detailed in NZS 3604, Paragraph 4.2.4 require SED.

**Hot dip galvanised must comply with AS/NZS 4680.

Also refer to the NZBC Acceptable Solution E2/AS1 Table 20 and 21 for information regarding the selection of suitable fixing materials and their compatibility with other materials.

5.3 Nail Sizes and Fixing Method

Hardie™ Plank Weatherboard must be fixed to studs with the types of nails specified in Table 2, in accordance with the following requirements:

- All nails must be driven flush with the board surface
- When fixing weatherboard at the ends, nail must be driven at a minimum distance of 20mm from the end
- For nails driven 50mm or closer from the end edges of Hardie™ Plank Weatherboard, holes must be pre-drilled using a 3mm titanium drill bit

Table 2

Nail requirements for Hardie™ Plank Weatherboard	
DIRECT FIXED TO FRAME	
Face nailing	
50 x 2.8mm Hardie™ Flex nails	Finish flush with the board surface
CAVITY CONSTRUCTION	
Face nailing over flexible underlay	
75 x 3.15mm Hardie™ Flex nails	Finish flush with the board surface
CAVITY CONSTRUCTION	
Face nailing over RAB Board or HomeRAB Pre-Cladding	
75 x 3.15mm Hardie™ Flex nails	Finish flush with the board surface

5.4 Gun Nailing

Hardie™ Plank Weatherboard can be gun-nailed for face nailing fixing methods. Nails must be finished flush with board surface.

Round head nails must be used and the size of these nails must comply with the requirements of Table 2.

Nails must be fired at a minimum distance of 50mm from the ends of boards. When gun nailing is used, double studs will be required.

Note: Do not use 'D' head nails.

6 Jointing

The ends of Hardie™ Plank Weatherboard are jointed off-stud using a back soaker. The joints may be located centrally between studs but no closer than 150mm from the studs. The joints must be staggered by 600mm minimum. Flexible silicone sealant must be used with back soakers for jointing. Refer to Figures 4 and 18.

7 Finishing

Protective coating of Hardie™ Plank Weatherboard is required in order to meet the durability requirements of the New Zealand Building Code.

7.1 Preparation

Remove any surface dirt, grime or other contaminants and ensure the Hardie™ Plank Weatherboard are dry before painting.

7.2 Sealants

All sealants must demonstrate the ability to meet the relevant requirements of the NZBC. Their application and usage must be in accordance with manufacturer's instructions. Sealants, if coated, must be compatible with the paint system.

7.3 Painting

All Hardie™ Plank Weatherboards are un-primed.

Hardie™ Plank Weatherboard must be painted within 90 days of installation. It is recommended to prime the Hardie™ Plank Weatherboard before the application of a coating system. All exposed faces, including the top edges under the sills and bottom edges of Hardie™ Plank Weatherboard and accessories must be finished with a quality exterior paint system complying with any of parts 7, 8, 9, and 10 of AS 3730.

Hardie™ Plank Weatherboard can be painted dark colours when installed with aluminium mouldings only.

When using uPVC corner moulds or flashings, the light reflective value of the colour used must be more than 40% as required under section 4.3.1 of 'E2/AS1'. Dark colours cause excessive movements and deteriorate the cladding performance.

For best aesthetic results a low sheen paint is recommended. Some environments require special coatings. Paint selection and specifications is dependant on the paint system chosen. Refer to the paint manufacturer.

8 Care & 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:

- Washing down the exterior every 6-12 months using low pressure water and a brush, and every 3-4 months in extreme coastal conditions (such as high winds and sea spray)
- Clean out gutters, downpipes and overflow pipes as required
- Cut back vegetation and landscaping which is too close to or touching the Hardie™ Plank Weatherboard
- Re-applying exterior protective finishes. Always refer to the paint manufacturer for recoating requirements related to ongoing paint performance
- Maintaining the exterior envelope and connections including joints, penetrations, flashings and sealants
- The clearances between the bottom edge of the Hardie™ Plank Weatherboard and the ground must always be maintained.

9 Product information

9.1 Manufacturing and Classification

James Hardie is an ISO 9001 certified manufacturer. Hardie™ Plank Weatherboards are manufactured to meet the requirements of AS/NZS 2908.2: 2000 'Cellulose-Cement Products'. Hardie™ Plank Weatherboards have a classification of Type A Category 3 in accordance with this standard.

The weatherboards are supplied un-primed. The ends are guillotine cut and top and bottom edges are square water-jet trimmed.

Hardie™ Plank Weatherboards are identified by the printing of the name at regular intervals on the back face.

9.2 Durability

Hardie™ Plank Weatherboard, 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'.

9.2.1 Resistance to Moisture/Rotting

Hardie™ Plank Weatherboard 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).

9.2.2 Fire Performance

Hardie™ Plank Weatherboards have been tested/assessed to AS/NZS 3837 and are suitable for use where non-combustible materials are specified.

9.2.3 Alpine Regions

In regions subject to freeze/thaw conditions, Hardie™ Plank Weatherboard 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 Hardie™ Plank Weatherboards have been tested in accordance with AS/NZS 2908.2 Clause 8.2.3.

9.3 Product Sizes and Mass

Available sizes of Hardie™ Plank Weatherboard and their weights are given in Table 3. Hardie™ Plank Weatherboards are classified as a light weight wall cladding (not exceeding 30kg/m²) in accordance with NZS 3604.

10 Product Sizes

Table 3

Product information									
					Coverage information				
Product	Code	Length (mm)	Width (mm)	Thickness (mm)	Effective cover	No. of planks/ metre height	Mass kg/ lineal m (approx. at EMC)	Mass kg/m2 approx. at EMC)	Pallet weight kg (60/120 units/ pack)
Smooth	401663	4200	180	7.5	150	6.7	2.4	16.0	600/1170
	400266	4200	300	7.5	270	3.6	3.6	12.9	950/1900

Note: All dimensions provided are based on nominal only and subject to manufacturing tolerances.

*The effective thickness of finished 7.5mm Hardie™ Plank Weatherboard on the wall at the lap is approx 17-19mm.

11 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's 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.

Use one of the following methods for cutting Hardie™ Plank Weatherboard:

Best

- Hardie™ Knife
- Hand guillotine
- Fibreshear

Better

Dust reducing circular saw equipped with Hardie™ Blade Saw Blade and connected to a M Class or higher vacuum.

When cutting outdoors

- ✓ 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

When cutting indoors

- ✗ Never cut using a circular saw indoors
- ✓ Position cutting station in a well ventilated area

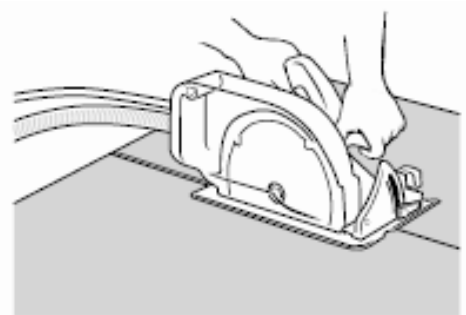
- ✓ Cut ONLY using a Hardie™ Knife, hand guillotine or fibreshears (manual, electric or pneumatic)
- ✓ Make sure you clean up BUT never dry sweep. Always hose down with water/wet wipe or use an M Class or higher vacuum

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

11.1 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.

11.2 Tips for safe and easy handling of Hardie™ Plank Weatherboard

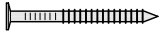





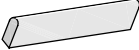

- ✓ Carry with two people
- ✓ Hold near each end and on edge
- ✓ Exercise care when handling sheet products to avoid damaging the edges/corners

12 Accessories

Table 4

Accessories/tools supplied by James Hardie for Hardie™ Plank Weatherboard			
	Accessory and material number	Size (mm)	Material/appearance
	External Corner Soaker - 310 - 180 303930 303932	310 180	Etch Primed Aluminium Self colour
	Concealed Back Soaker - 310 - 180 303933 303936	310 180	Etch Primed Aluminium Self colour
	External Corner (box) Mould - 3000 - 2700 300380 300378	3000 2700	Etch Primed Aluminium
	External Corner Mould 135° - 2700 300375	2700	Etch Primed Aluminium
	Internal Corner Mould 135° - 2700 300383	2700 long	Etch Primed Aluminium
	Corner Underflashing - 50 x 50 303745	3000 long	uPVC
	Vent Strip 302490	3000 long	PVC White
	Internal 'W' Corner - 2700 300386	2700 long	Etch Primed Aluminium
	Hardie™ Flex nail - 5kg 304253	75 x 3.15mm	316 Stainless Steel
	Hardie™ Flex nail - 5kg 304251	75 x 3.15mm	Hot Dip Galvanised
	Hardie™ Blade Saw Blade Diamond tip fibre cement circular saw blade. Spacers not included. 300660	184mm	Diamond Tipped
	Hardie™ Blade Saw Blade Diamond tip fibre cement circular saw blade. Spacers not included. 303375	254mm	Diamond Tipped
	Hardie™ Knife Scoring tool for easy cutting. 305926		

Table 5

Accessories/tools not supplied by James Hardie for Hardie™ Plank Weatherboard			
James Hardie recommends the following products for use in conjunction with its Hardie™ Plank Weatherboard. James Hardie does not supply these products. Please contact component manufacturer for information on their warranties and further information on their products.			
	Accessory and material number	Size (mm)	Material/ appearance
	Hardie™ Flex nail	40 x 2.8mm and 50 x 2.8mm	316 Stainless Steel
	Hardie™ Flex nail	40 x 2.8mm and 50 x 2.8mm	Hot Dip Galvanised
	Flexible sealant ie: Sikaflex® AT Facade	Tube	Cured rubberised compound
	PEF Rod Sika® Boom or similar	Polyethylene foam	Semi rigid foam
	Flashing Tape Tyvek®, Protecto® Wrap or similar	Proprietary tape to adhere to flexible underlay	
	Flashing to Table 20 'E2/AS1'	Refer Figure 13	Flashing fabricator
	Timber Scriber	As required	H3.1 Treated Timber. Timber merchant or cut on site
	Cant Strip Redway Developments 03 358 5775	To suit cavity only	uPVC

13 Details

Various details outlined in the following table are available on Pages 22 to 49.

Table 6

Details				
DESCRIPTION	DIRECT FIXED		CAVITY CONSTRUCTION	
	FIGURE	PAGE	FIGURE	PAGE
Framing Setout	Figure 1	22		
Sheet Fixing Setout	Figure 2	23	Figure 16	33
Concrete Footing	Figure 3	24	Figure 17	34
Weatherboard Fixing	Figure 4	25	Figure 18	35
Aluminium Box Corner	Figure 5	26	Figure 19	36
External Boxed Corner	Figure 6	26	Figure 20	36
External Corner Soaker	Figure 7	27	Figure 21	37
Internal 90° Aluminium 'W' Mould	Figure 8	27	Figure 22	38
Internal 135° Aluminium 'W' Mould	Figure 9	28	Figure 23	39
Soffit Detail	Figure 10	28	Figure 24	39
Sill Flashings without Facings	Figure 11	29	Figure 25	40
One Piece Head Flashing without Facings	Figure 12	29	Figure 26	40
Jamb Flashing without Facings	Figure 13	30	Figure 27	41
Batten Setout			Figure 14 & 31	31 and 44
Cavity Sill with facings			Figure 28	41
Cavity One piece head flashing with facing			Figure 29	42
Cavity jamb flashing with facing			Figure 30	43
Batten Fixing			Figure 15	32
Parapet Flashing			Figure 32	44
Meter Box at Head			Figure 33	45
Meter Box at Sill			Figure 34	46
Meter Box at Jamb			Figure 35	47
Pipe Penetration			Figure 36	48
One Piece Apron Flashing Joint			Figure 37	49
Garage head as per Linea Cavity	Figure 38	50		
Garage jamb as per Linea Cavity	Figure 39	51		

Figure 1: Direct fix framing setout

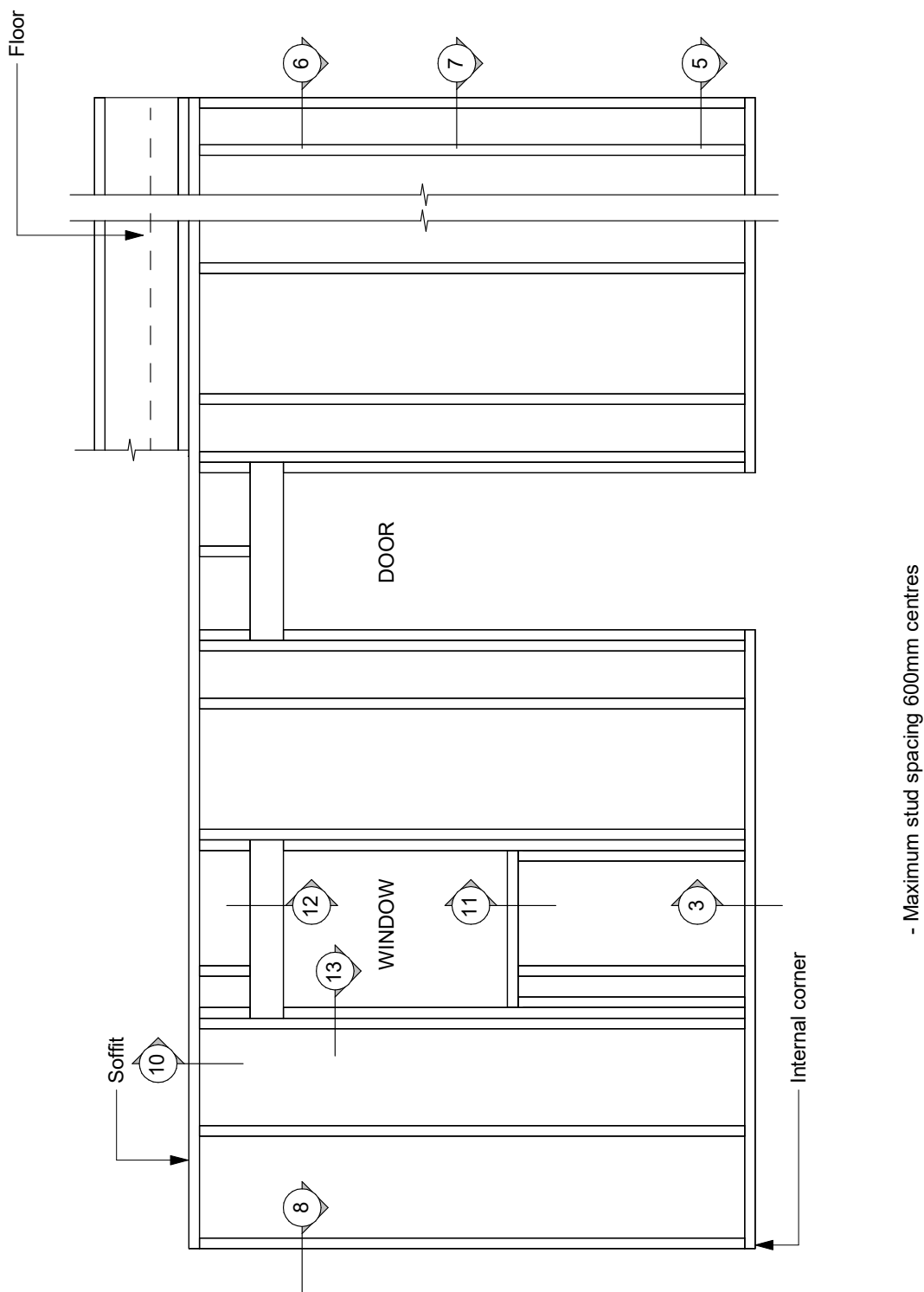


Figure 2: Direct fix sheet fixing setout

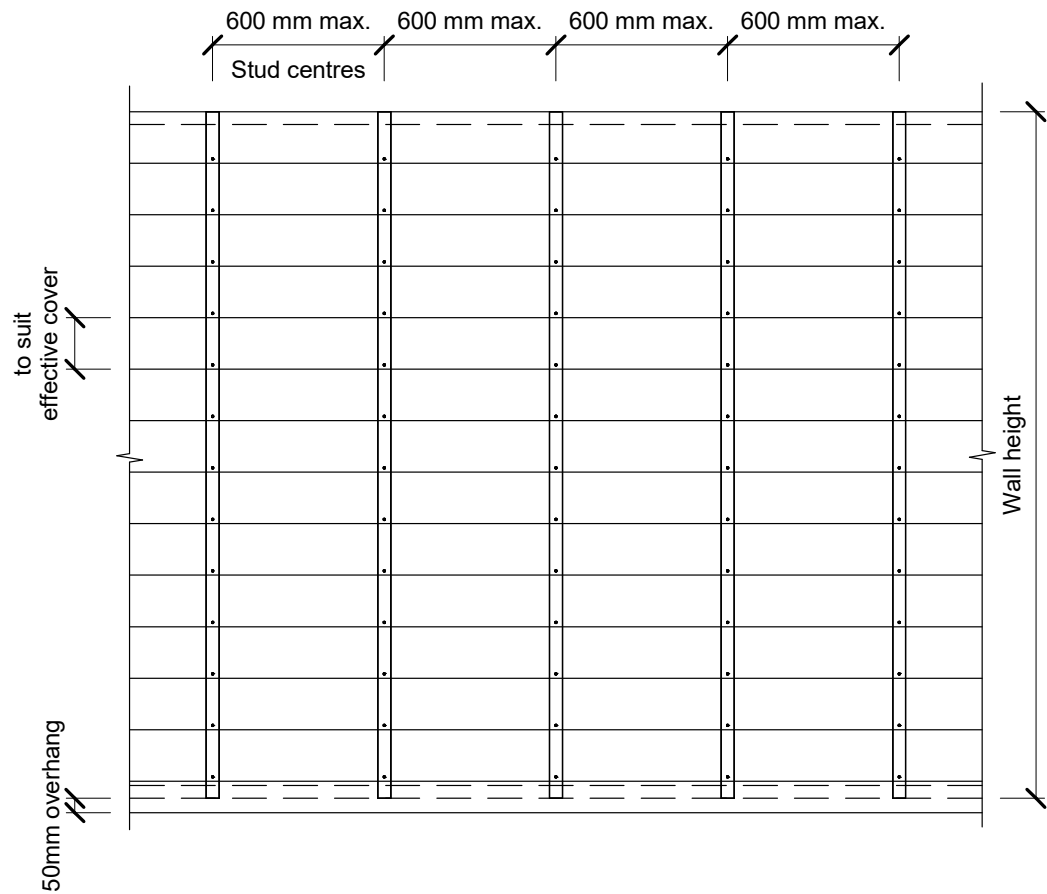


Figure 3: Direct fix concrete footing

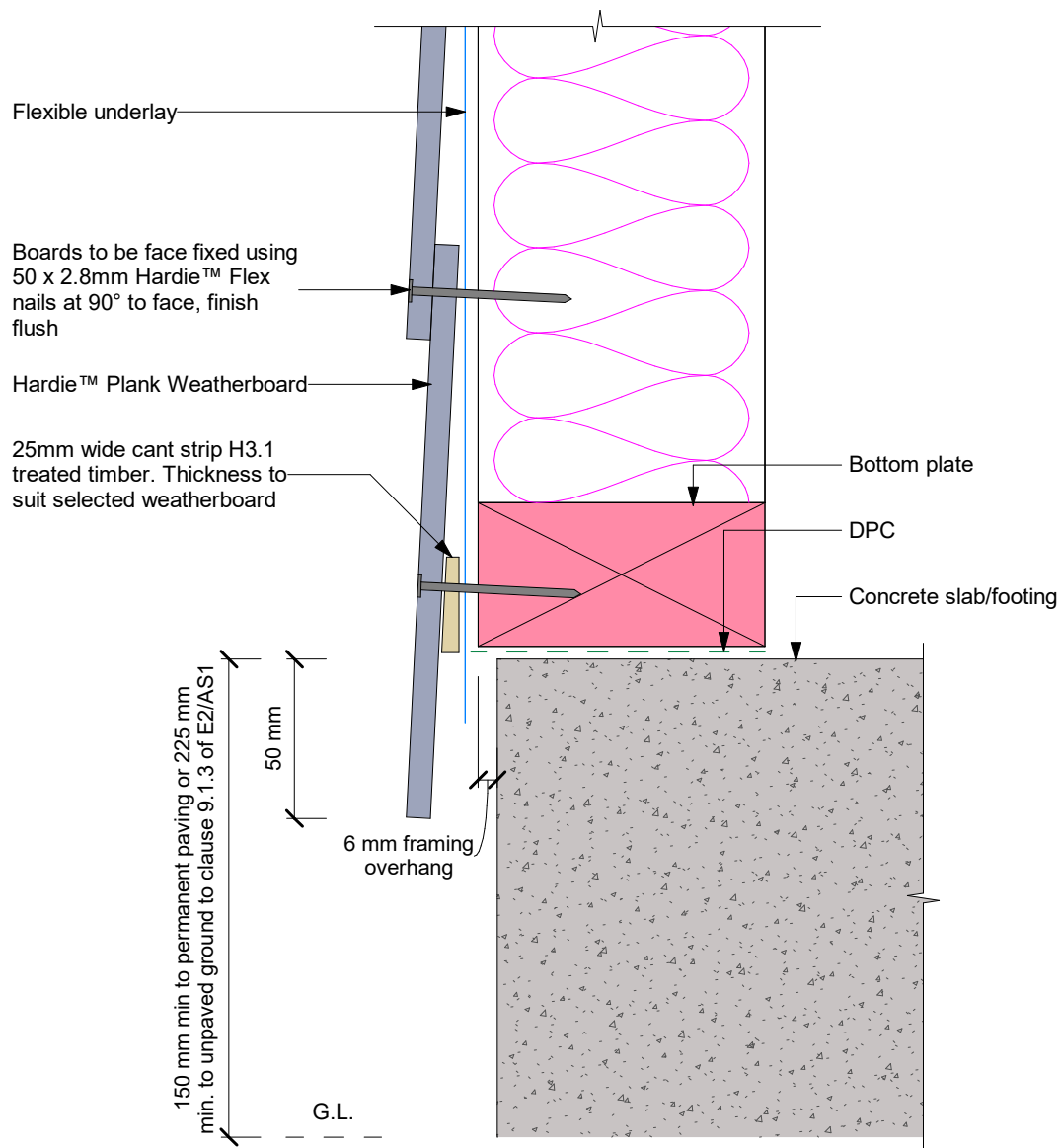
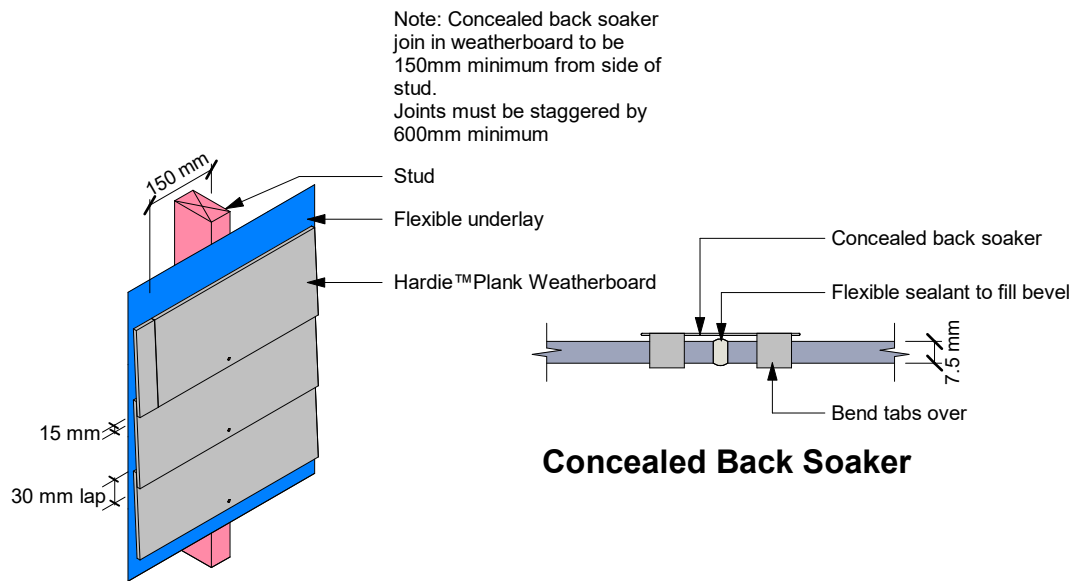


Figure 4: Direct fix weatherboard fixing



Jointing Off Stud

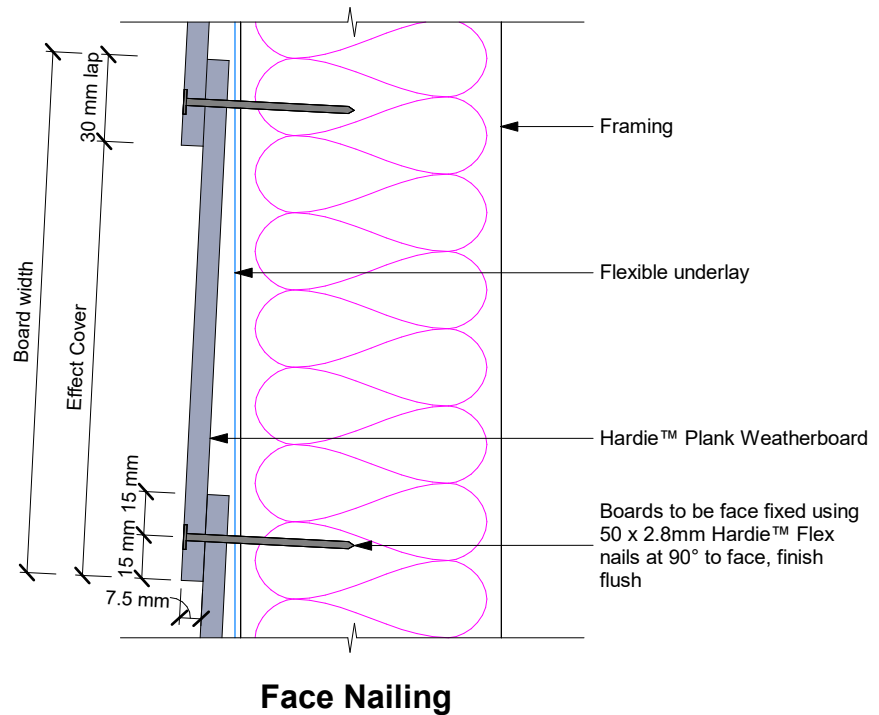


Figure 5: Direct fix aluminium box corner

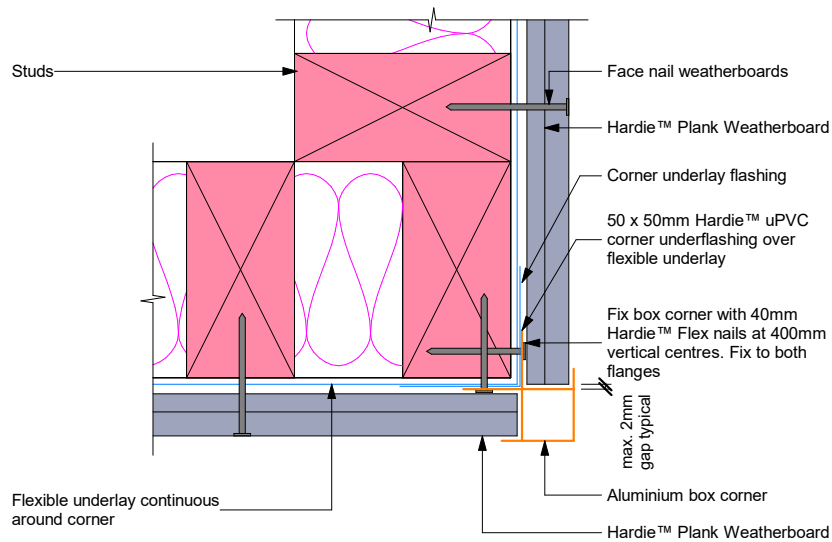


Figure 6: Direct fix external boxed corner

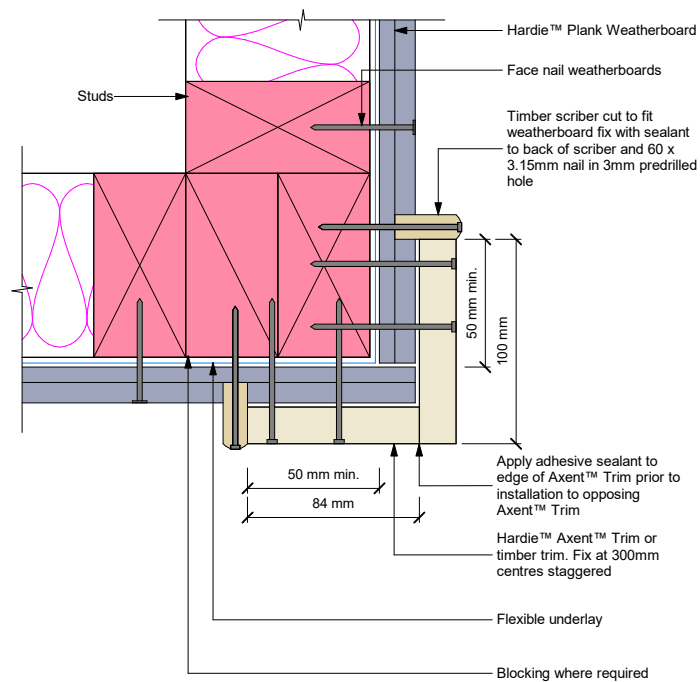


Figure 7: Direct fix external corner soaker

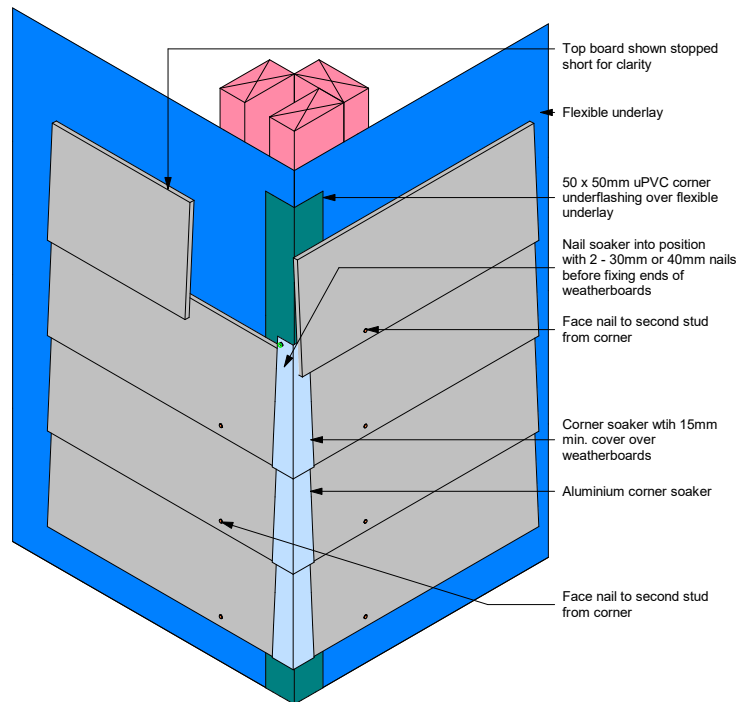


Figure 8: Direct fix internal 90° aluminium 'W' mould

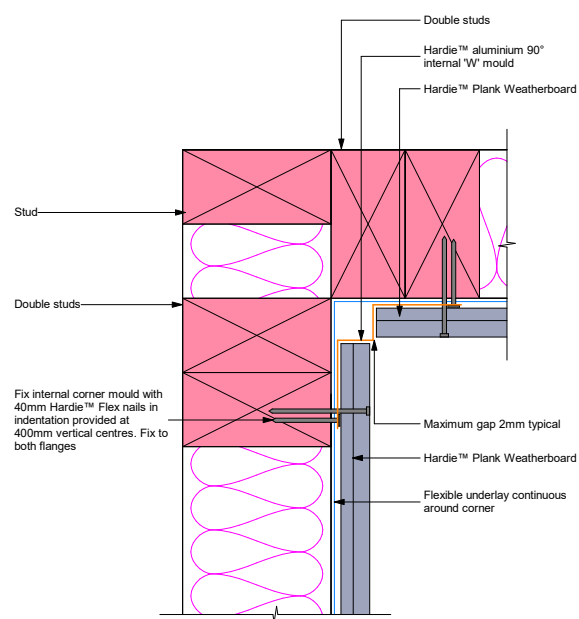


Figure 9: Direct fix internal 135° aluminium 'W' mould

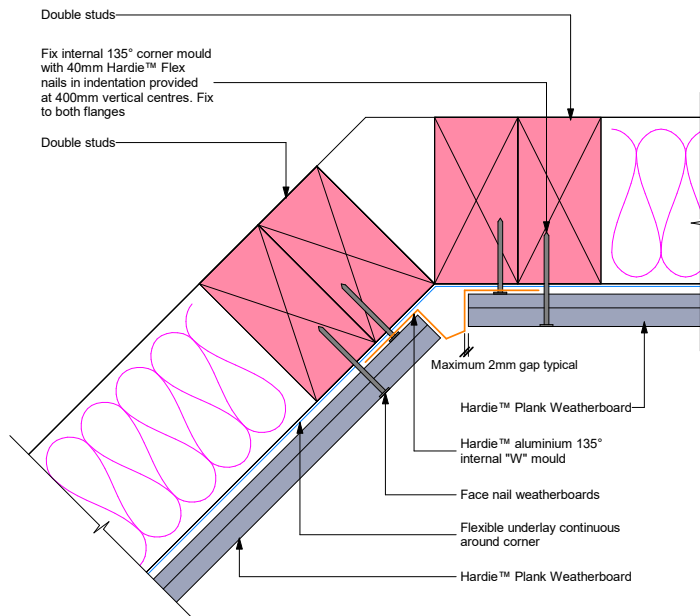


Figure 10: Direct fix soffit detail

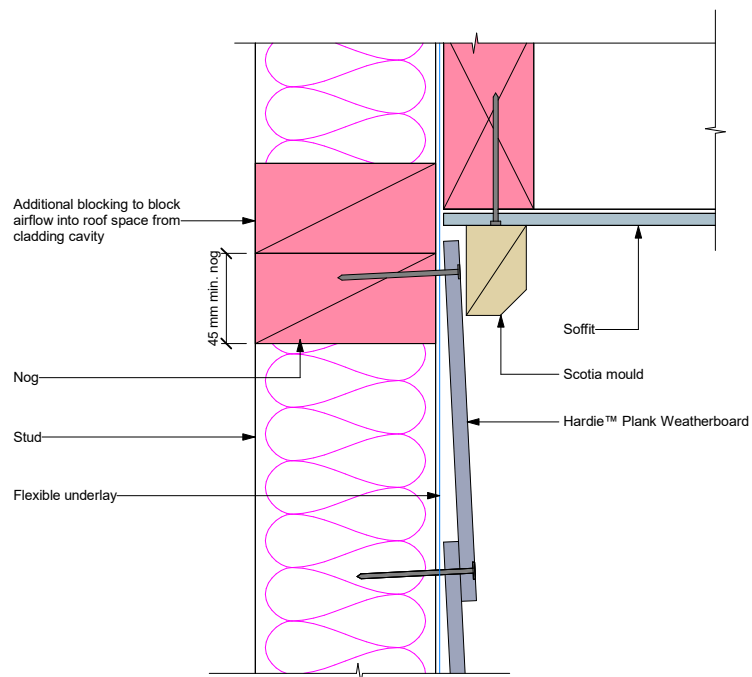
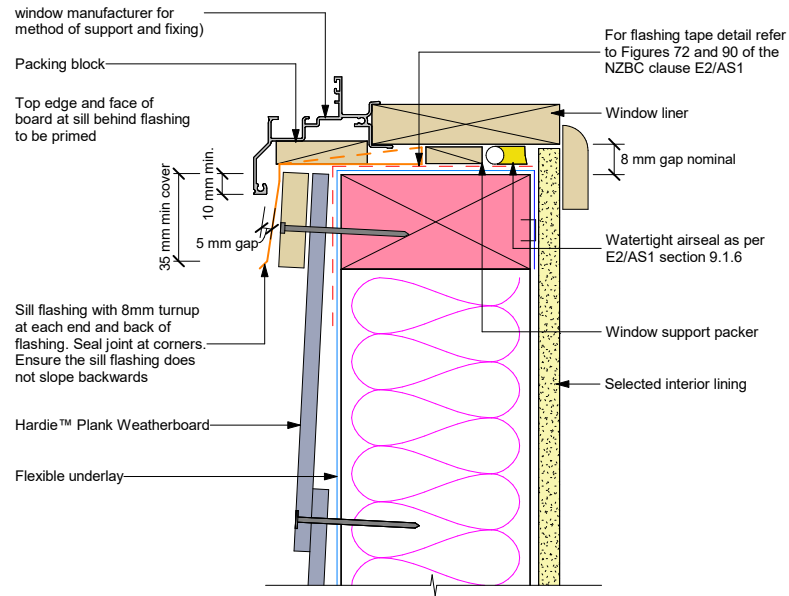


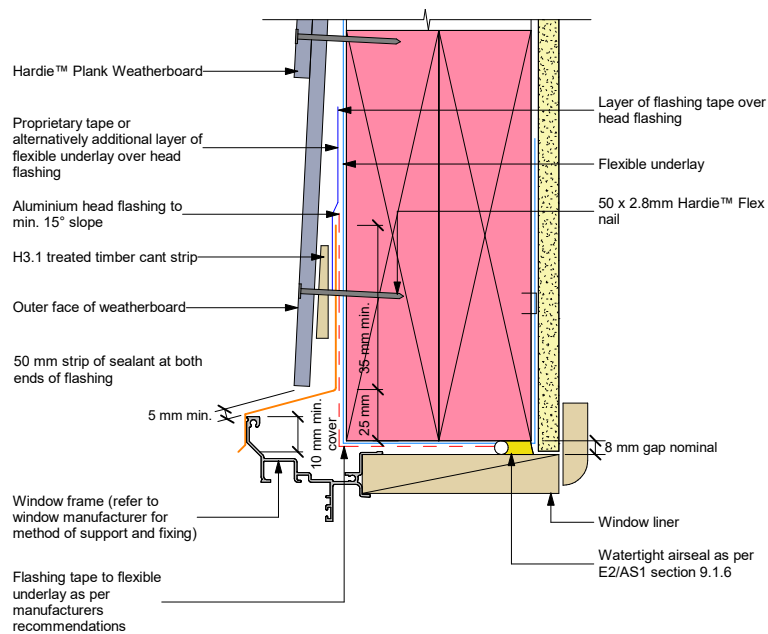
Figure 11: Direct fix window sill flashings without facings



General note for materials selection

Flashing materials must be selected based on environmental exposure, refer to NZS 3604 and Table 20 of the NZBC E2/AS1

Figure 12: Direct fix one piece head flashing without facings



Note:
Sealant between head flashing and window flange in VH and EH wind zones. Refer Figure 71 of E2/AS1

Figure 13: Direct fix jamb flashing without facings

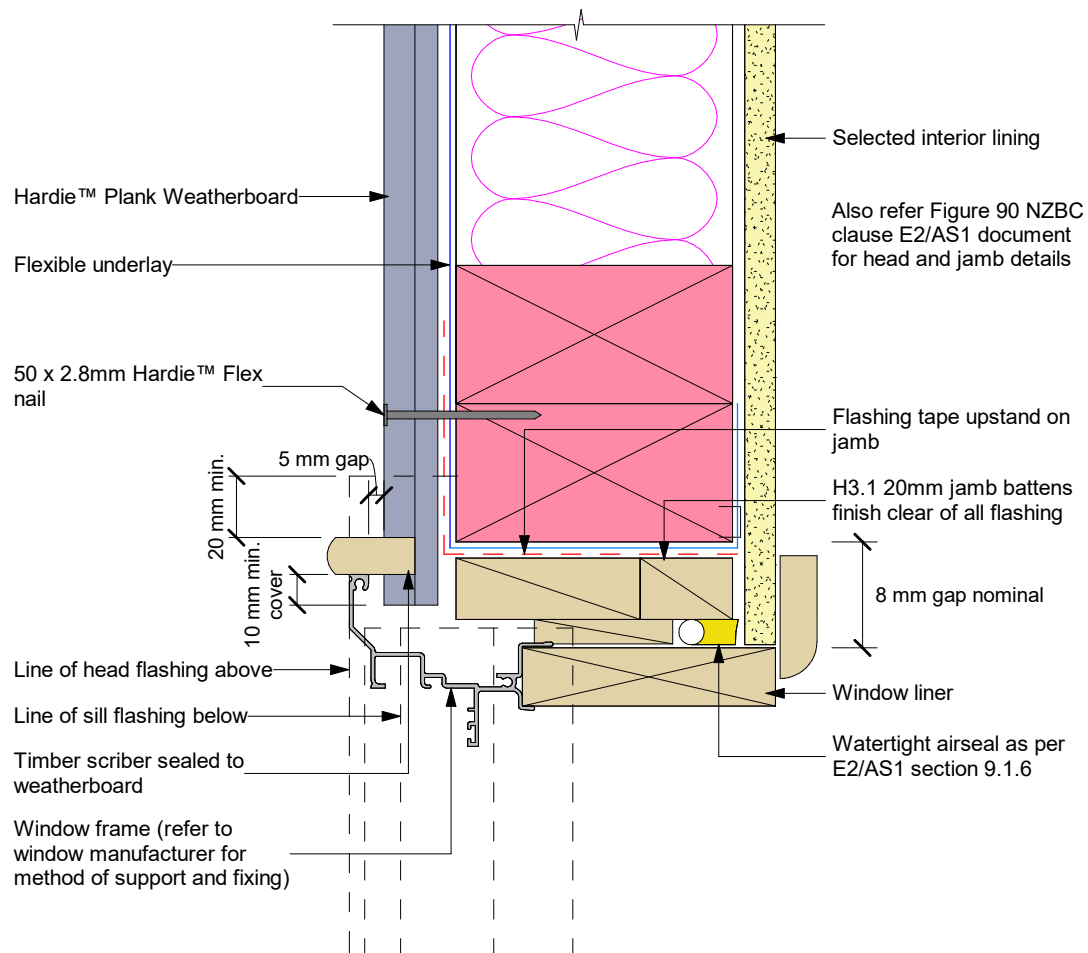
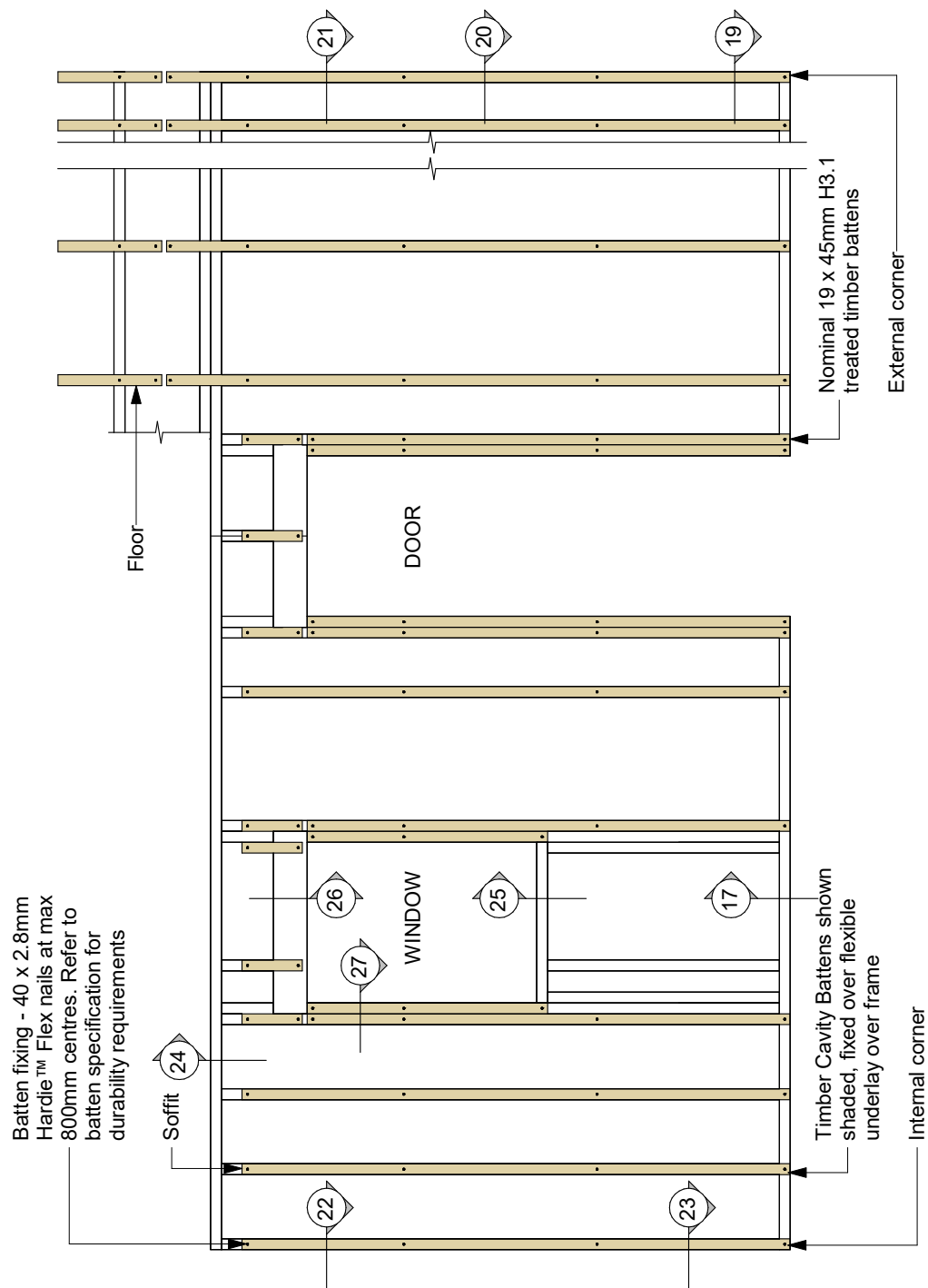


Figure 14: Cavity framing and batten setout



Note:
Section notations refer to Figure numbers

Figure 15: Cavity framing batten fixing

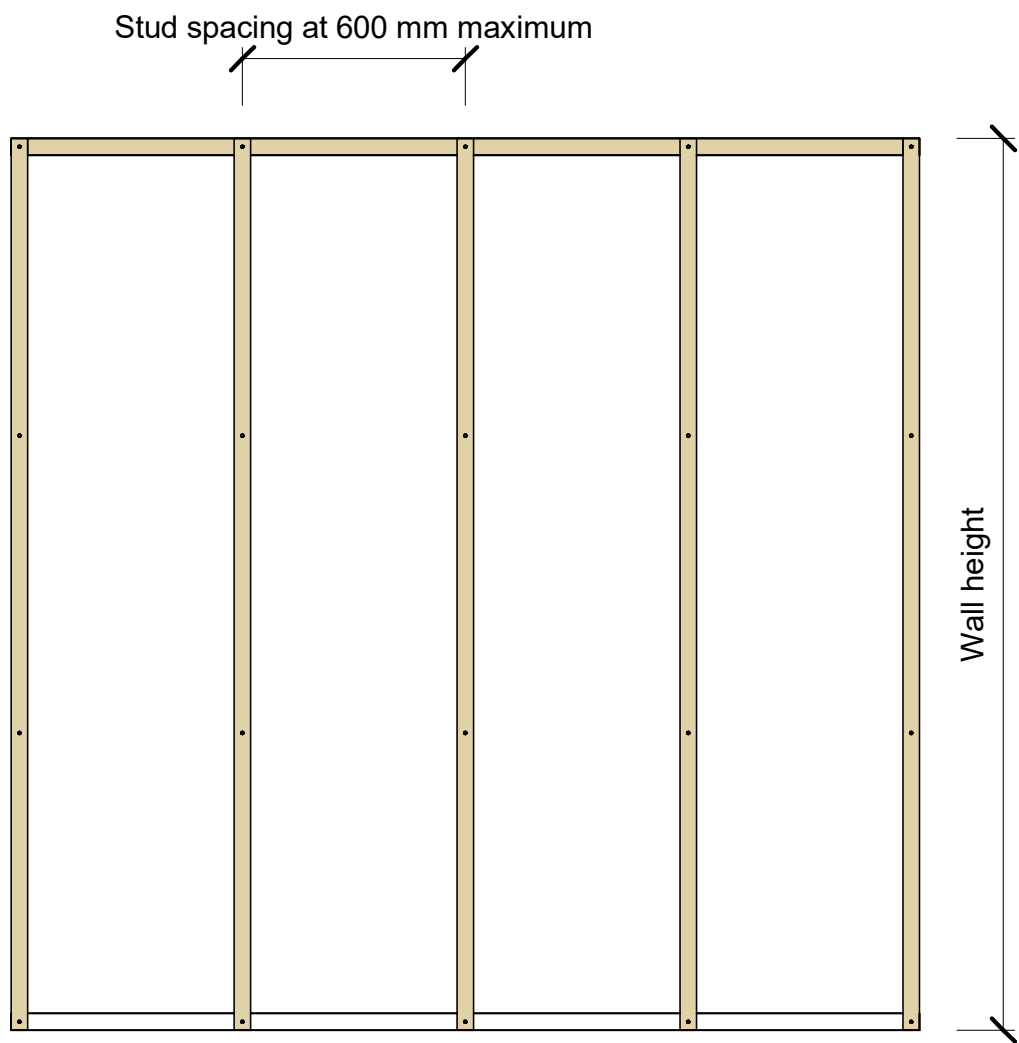


Figure 16: Cavity weatherboard fixing setout

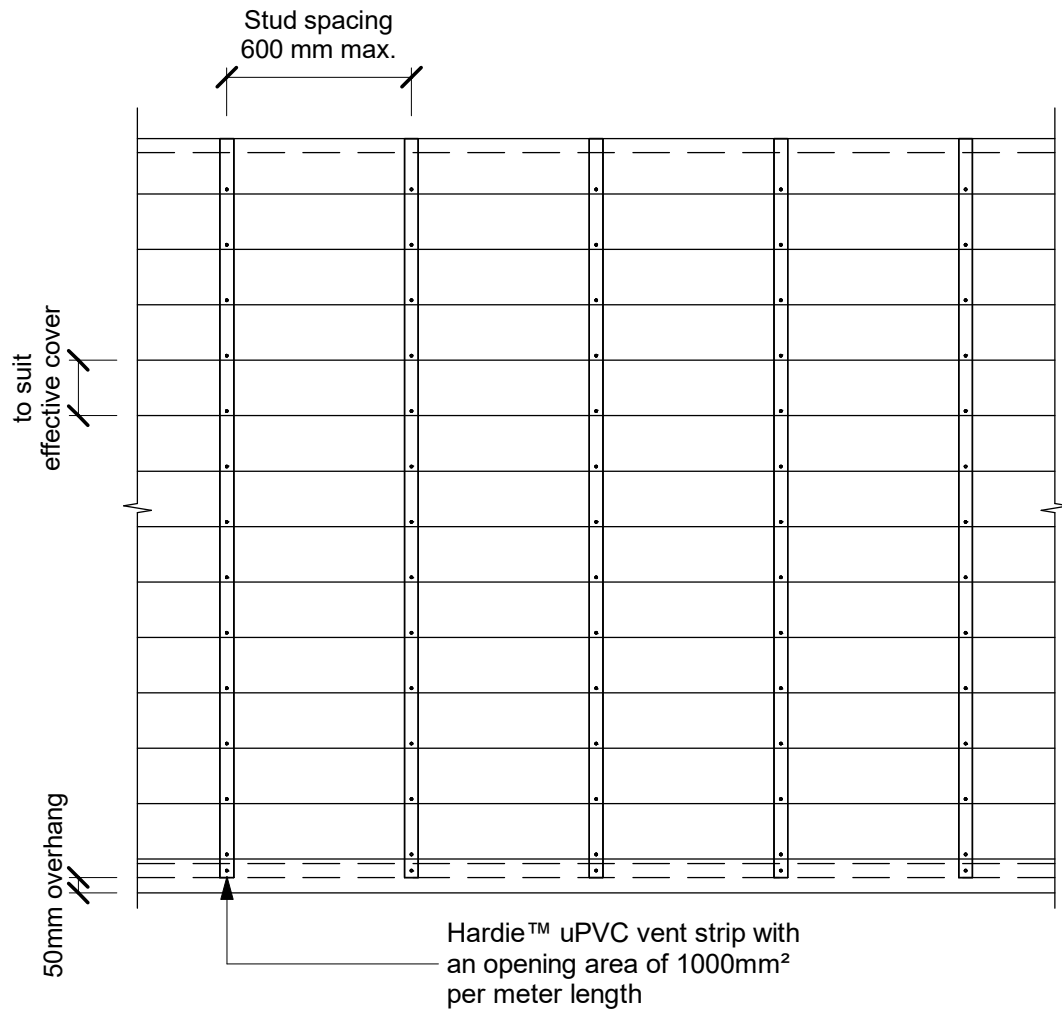


Figure 17: Cavity concrete footing

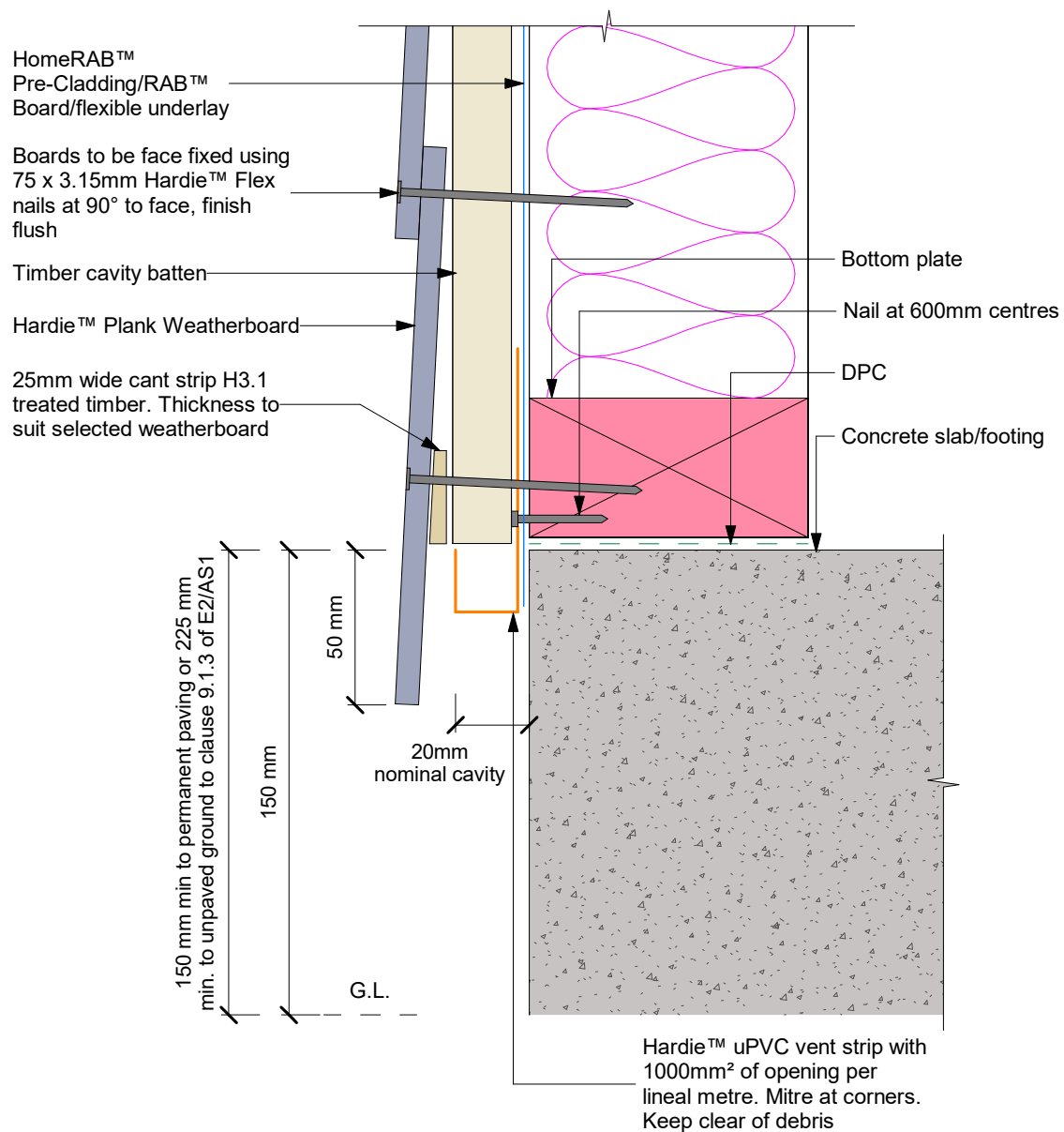
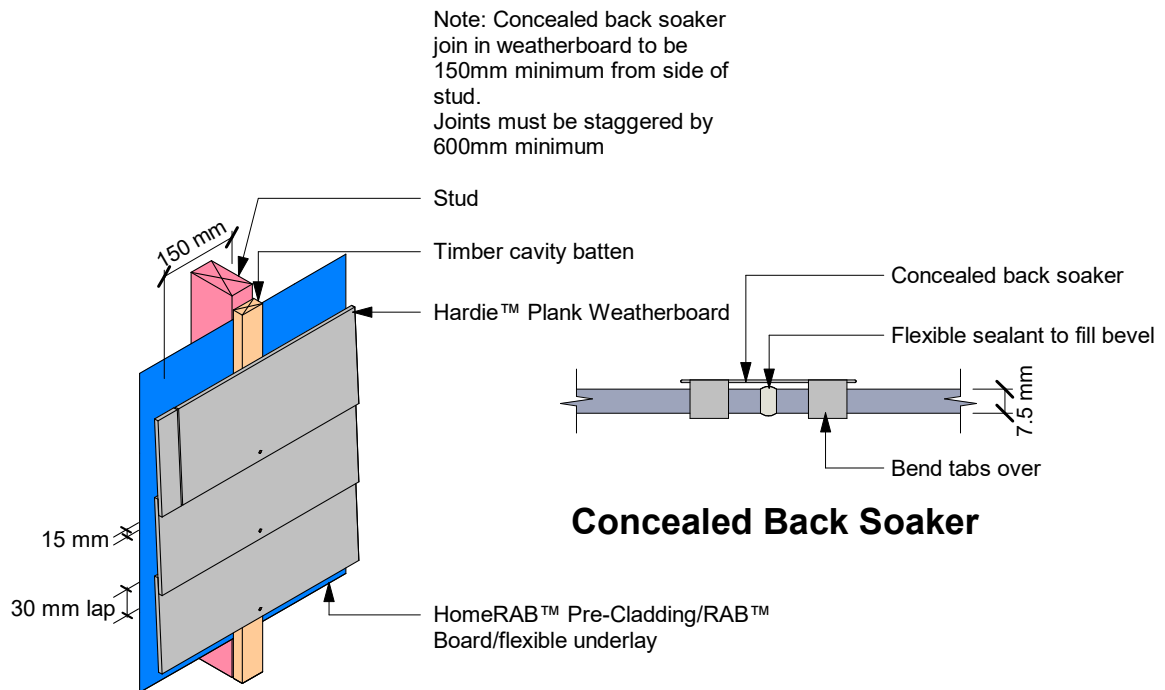
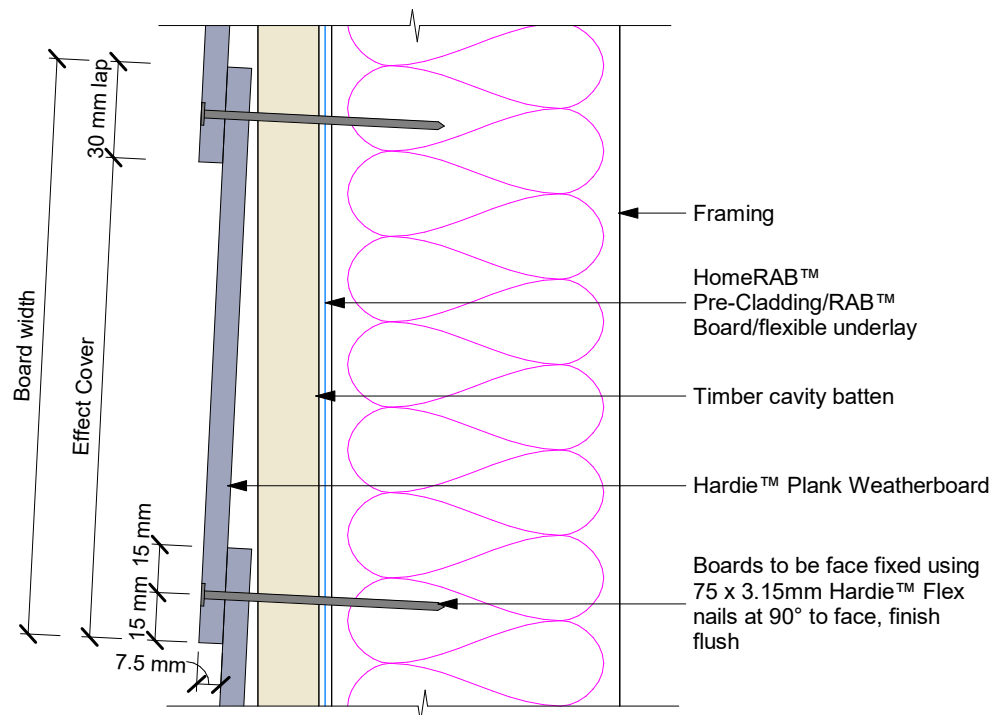


Figure 18: Cavity weatherboard fixing



Concealed Back Soaker

Joining Off Stud



Face Nailing

Figure 19: Cavity aluminium box corner

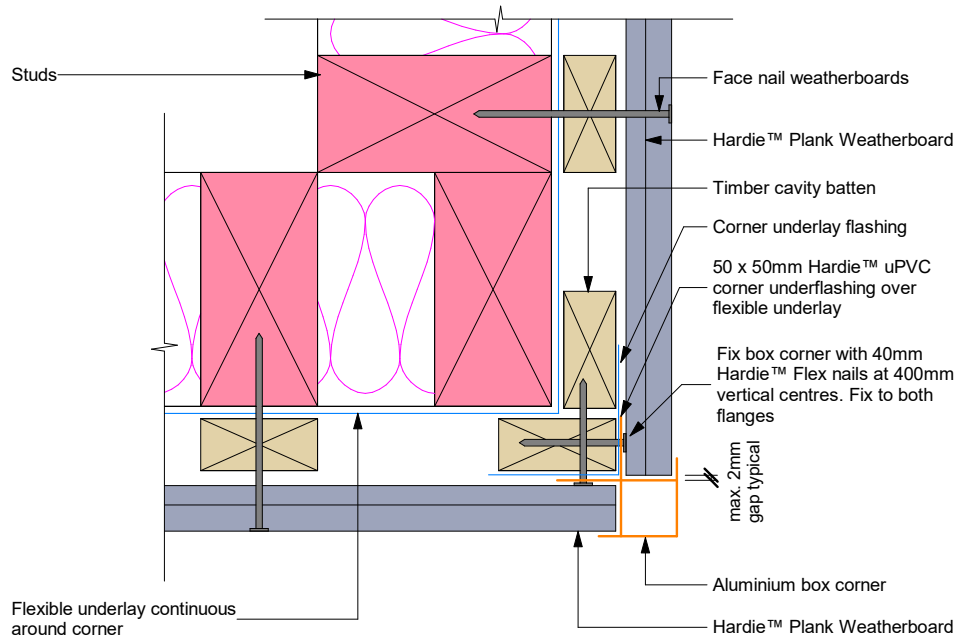


Figure 20: Cavity boxed corner

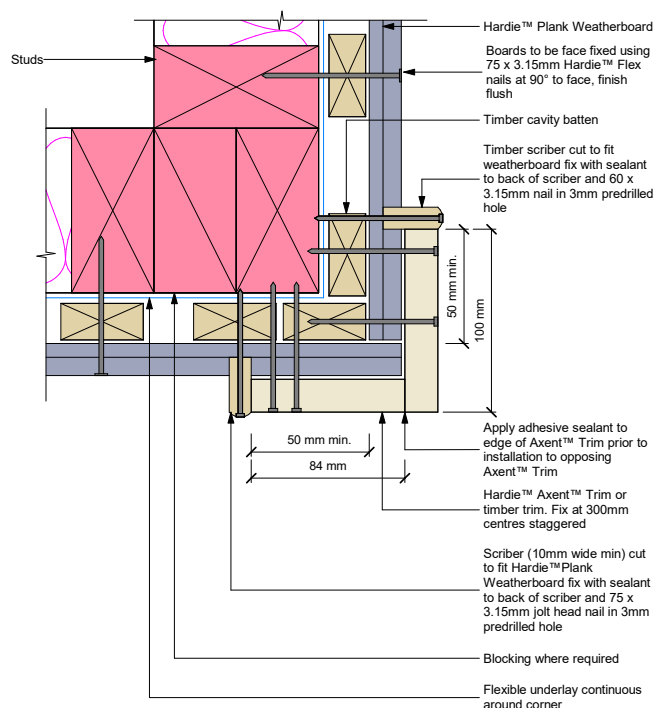


Figure 21: Cavity external corner soaker

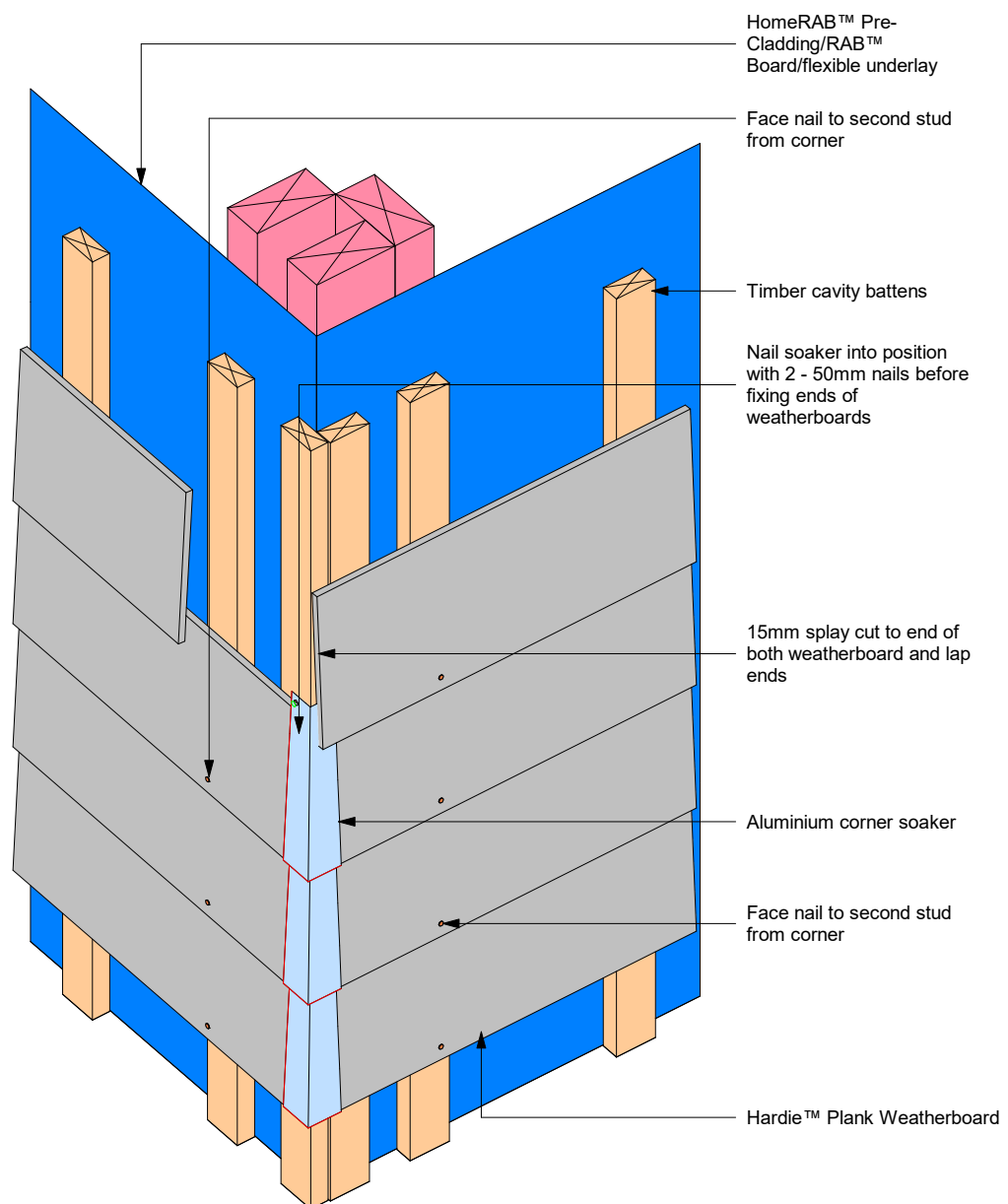


Figure 22: Cavity internal 90° aluminium 'W' mould

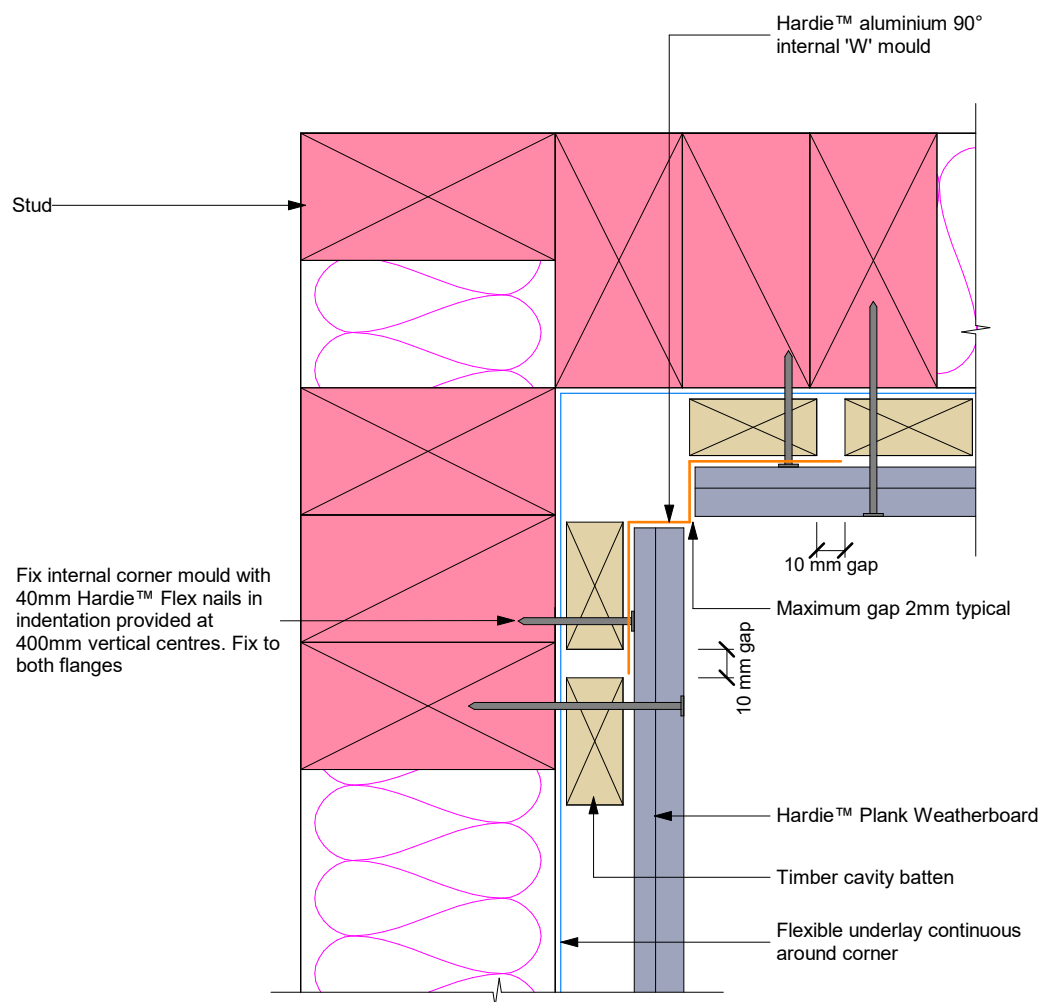


Figure 23: Cavity internal 135° aluminium 'W' mould

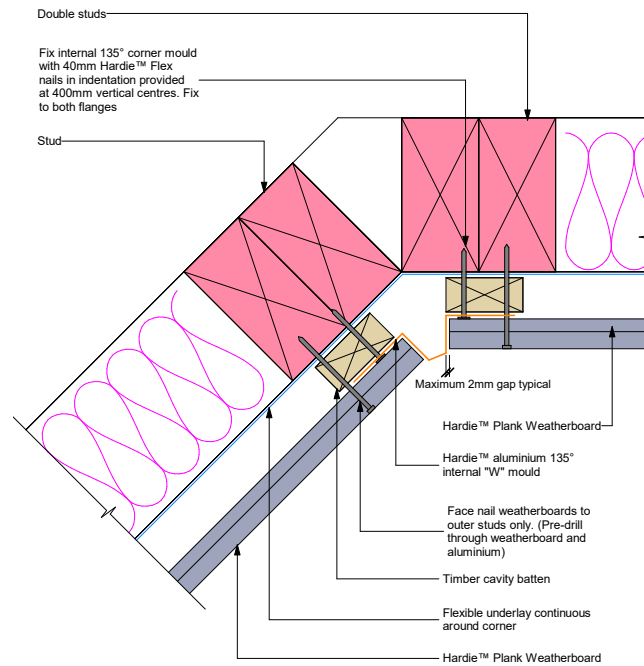


Figure 24: Cavity soffit detail

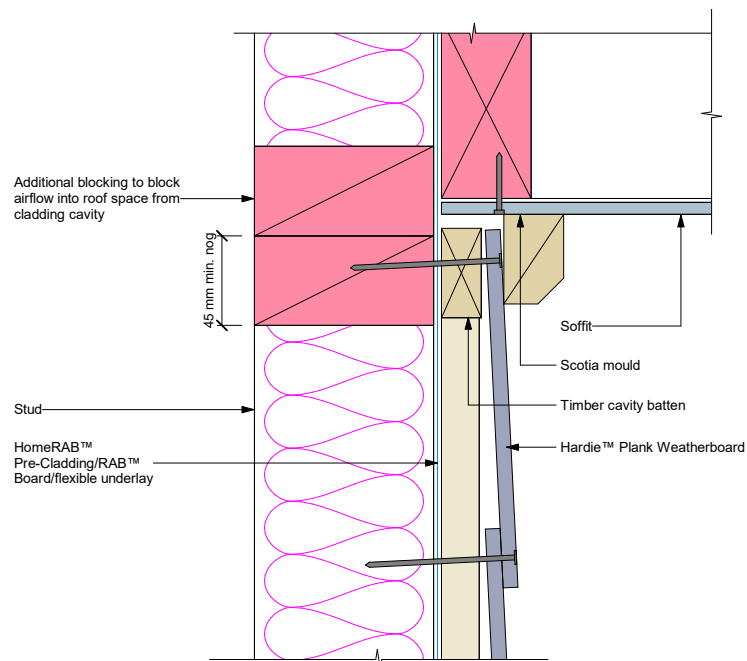


Figure 25: Cavity sill flashing without facings

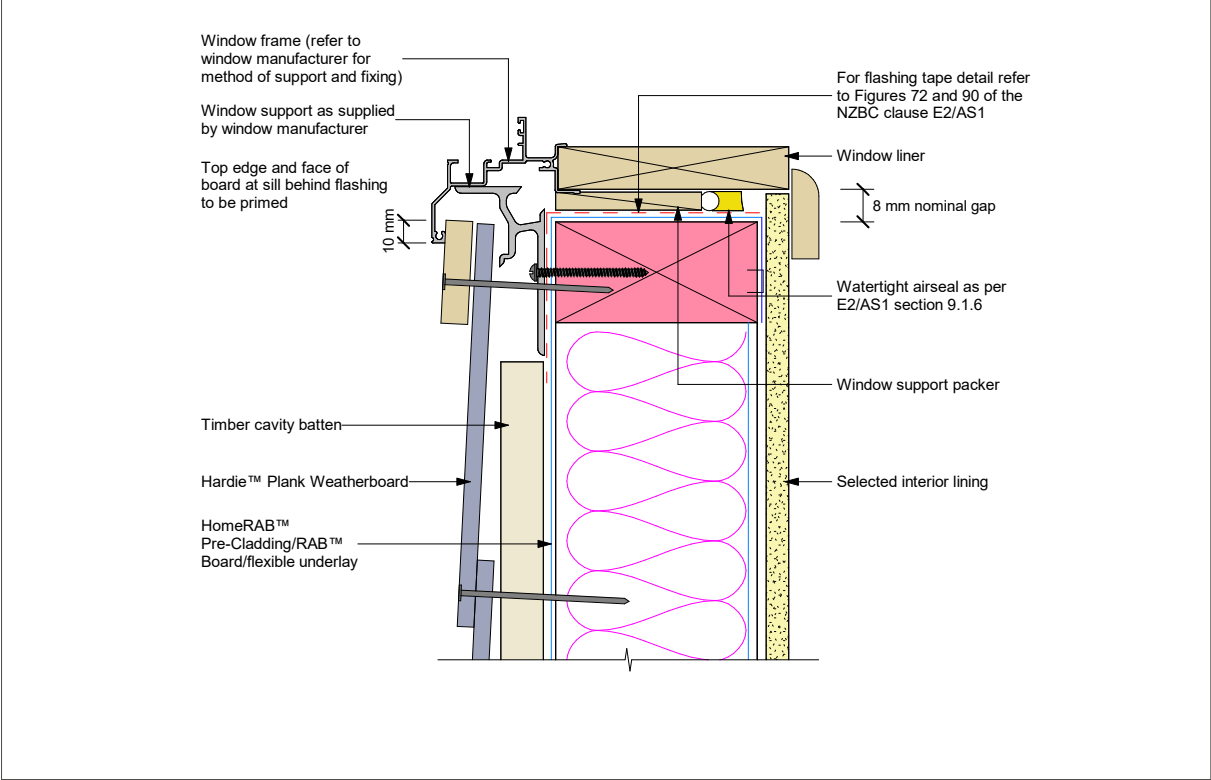


Figure 26: Cavity one piece head flashing without facings

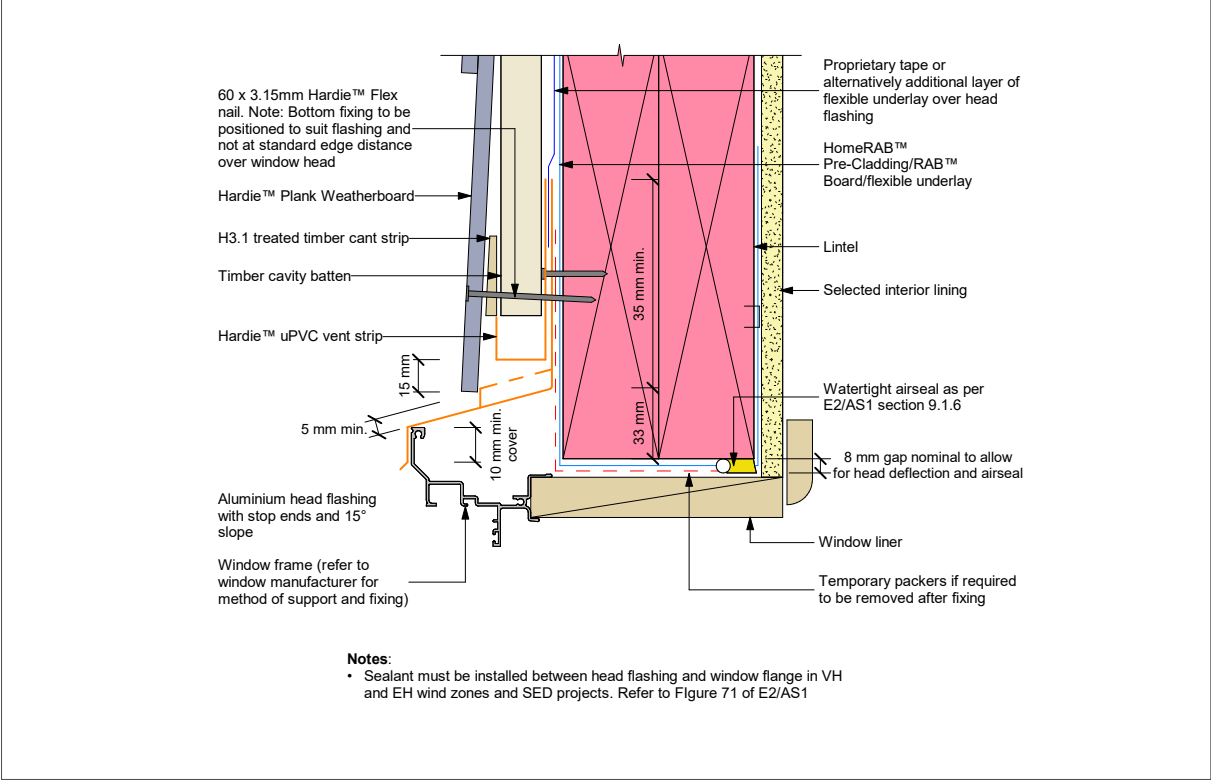
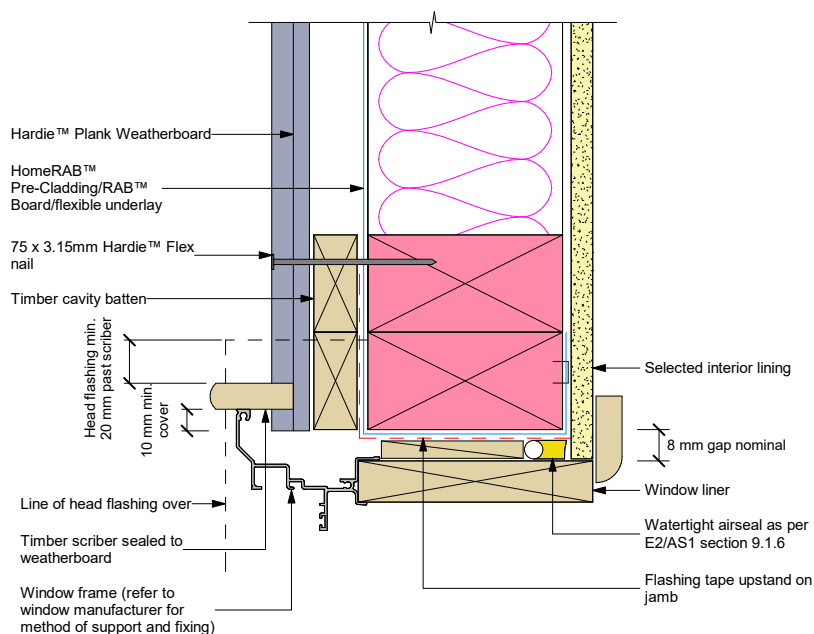


Figure 27: Cavity jamb flashing without facings



Note: Also refer Figure 91 NZBC clause E2/AS1 document for head and jamb details

Figure 28: Cavity sill flashing with facing

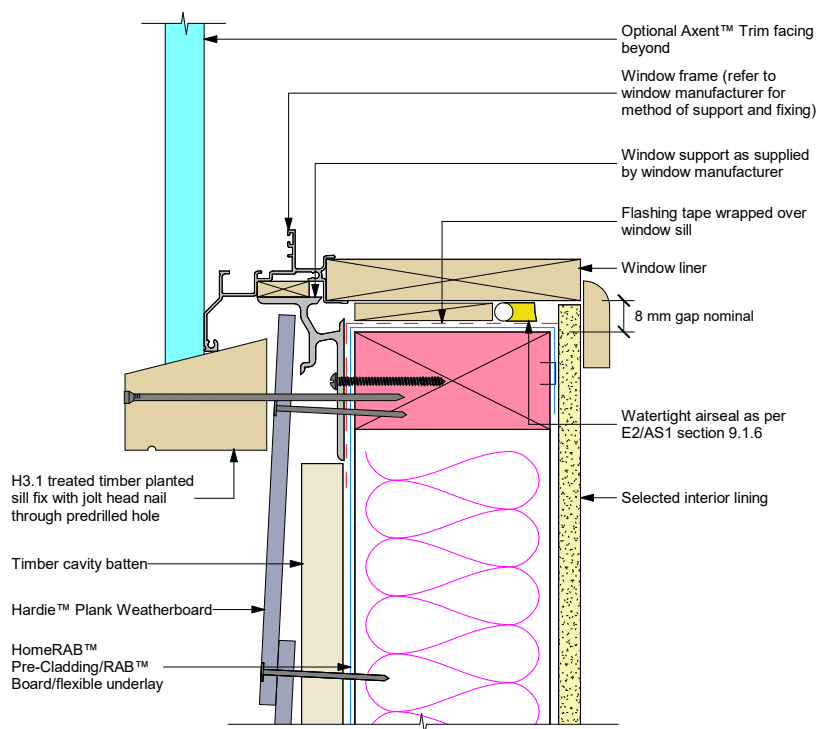
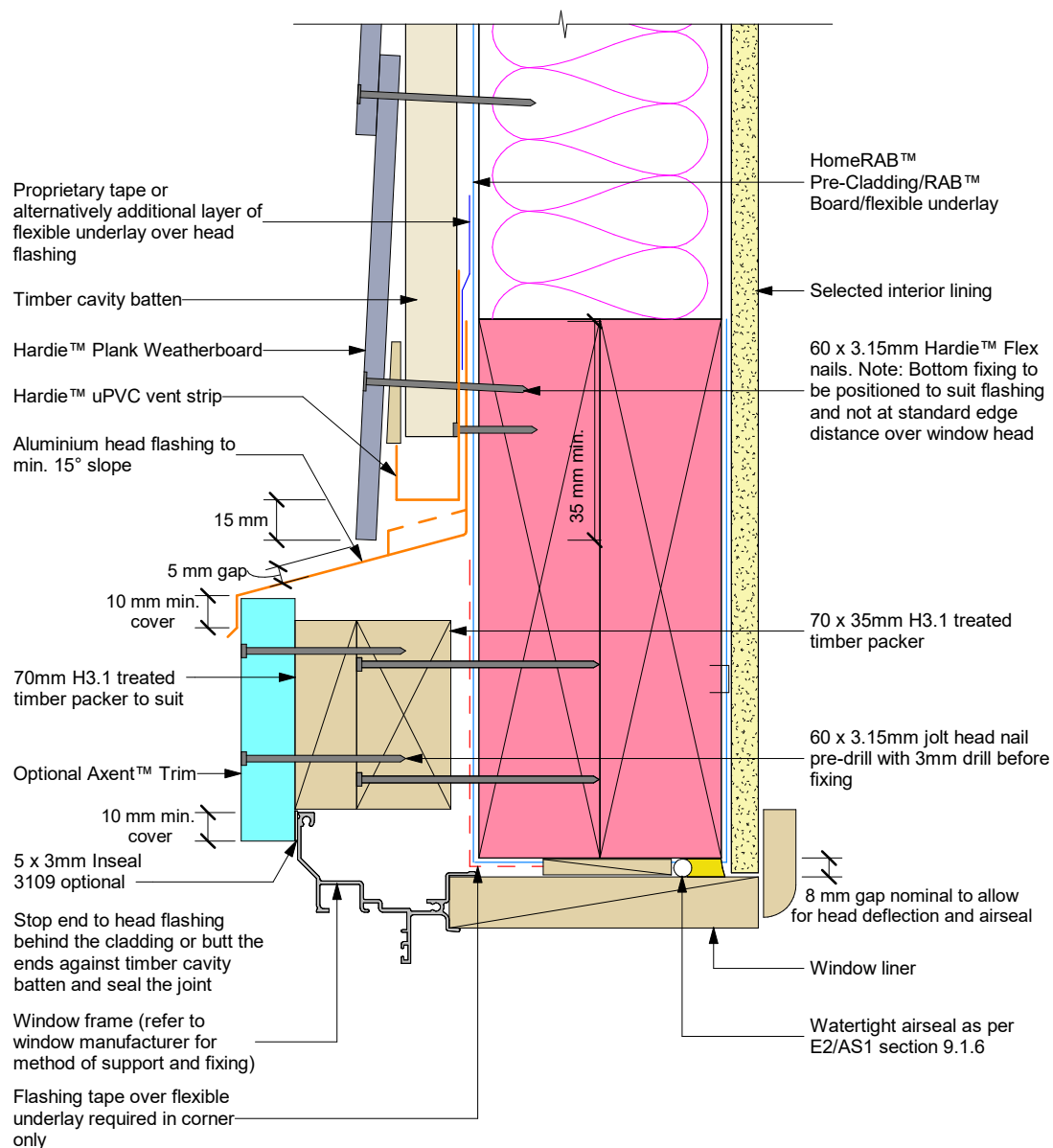
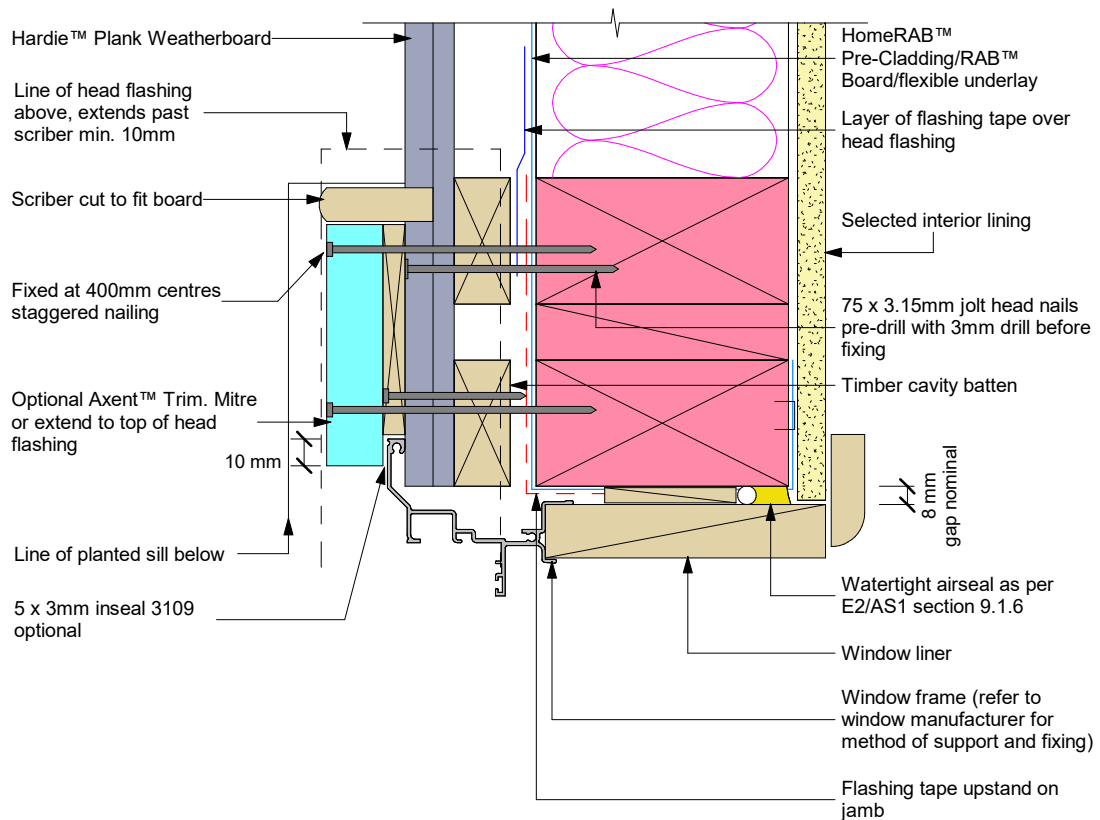


Figure 29: Cavity one piece head flashing with facings



Note:
Sealant must be installed between head flashing and window flange in VH and EH wind zones and SED pressures

Figure 30: Cavity jamb flashing with facings



Notes:

- Also refer Figure 91 NZBC clause E2/AS1 document for head and jamb details

Figure 31: Cavity framing and batten setout

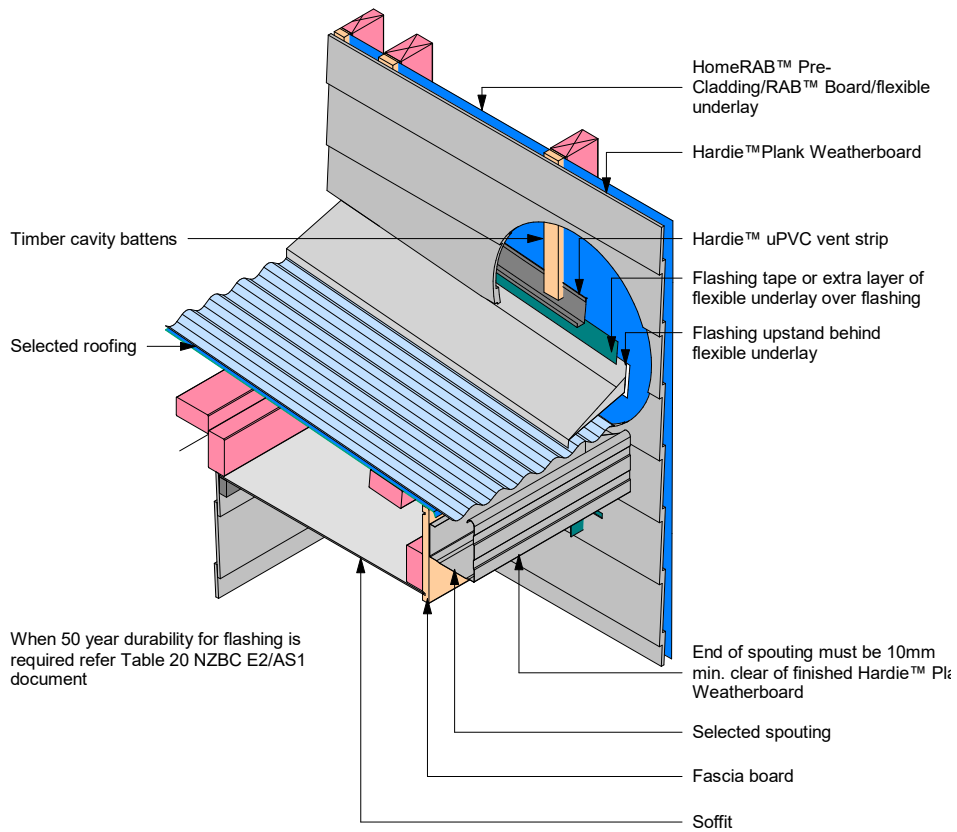


Figure 32: Cavity parapet flashing

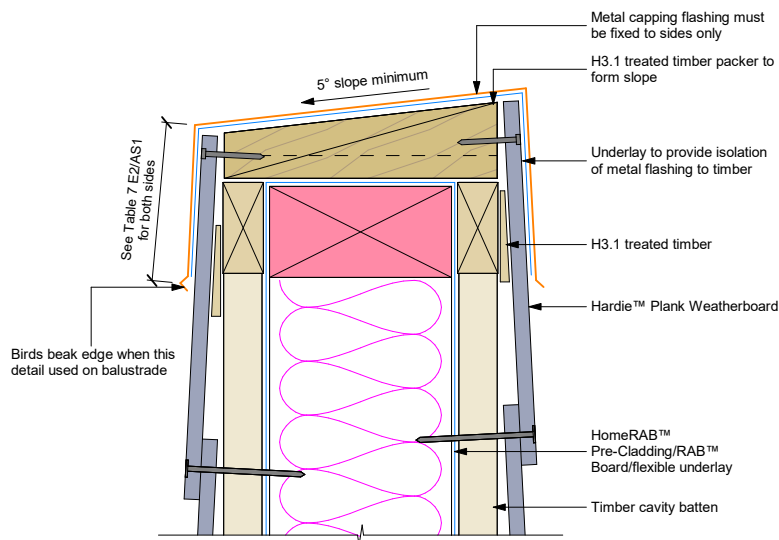


Figure 33: Cavity meter box at head

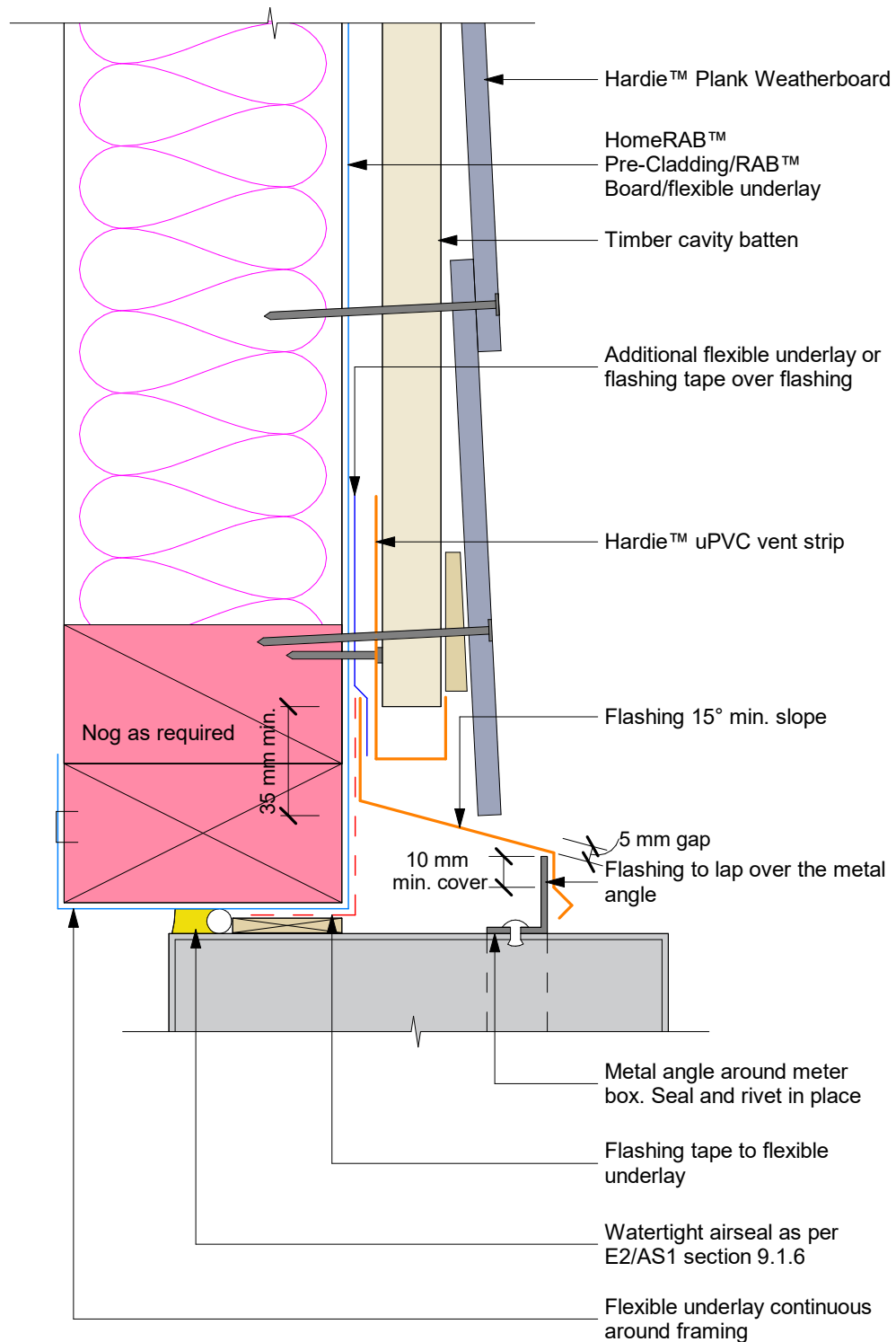
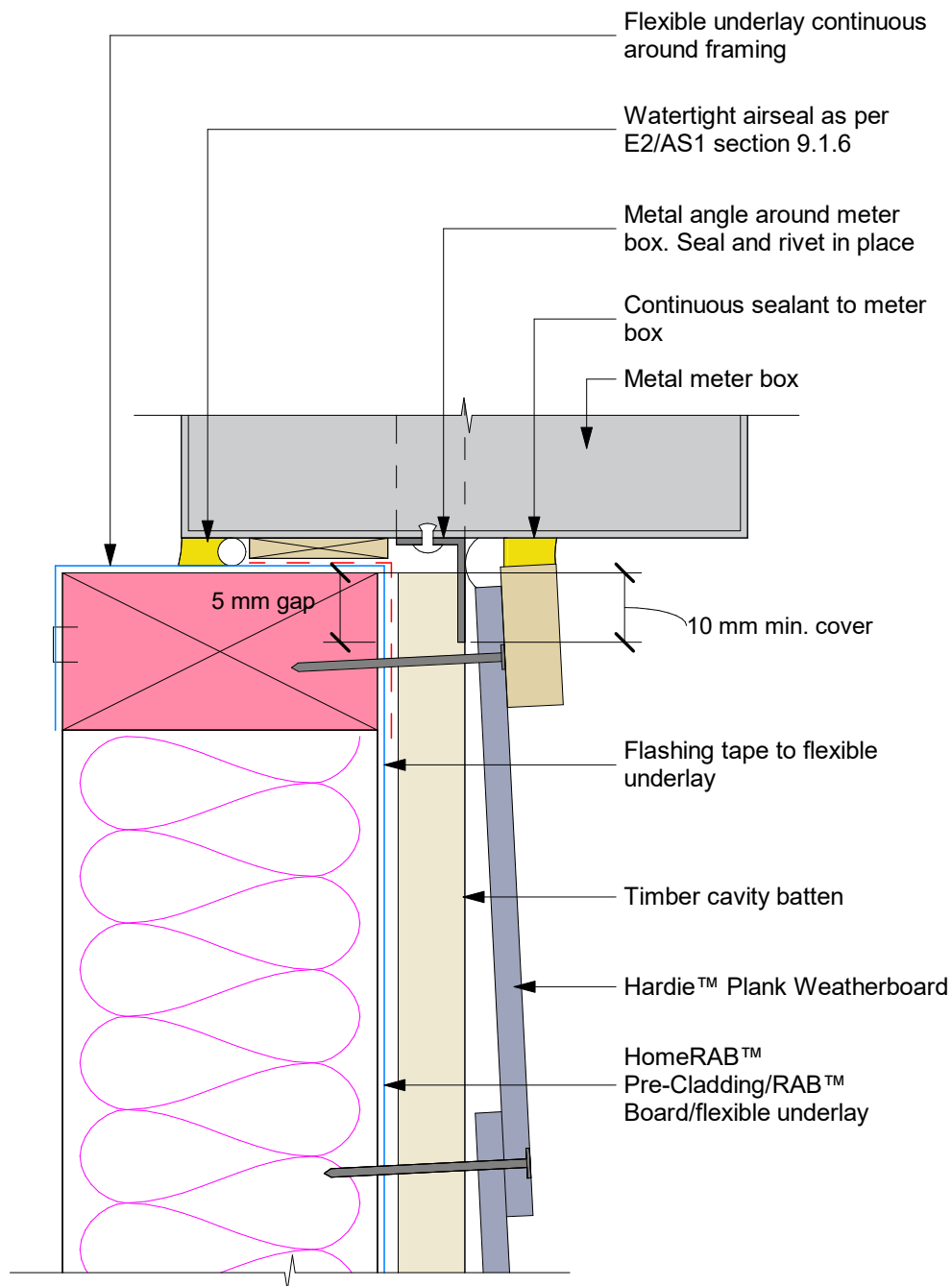


Figure 34: Cavity meter box at sill



Note: Site cut edges to be primed

Figure 35: Cavity meter box head flashing at jamb

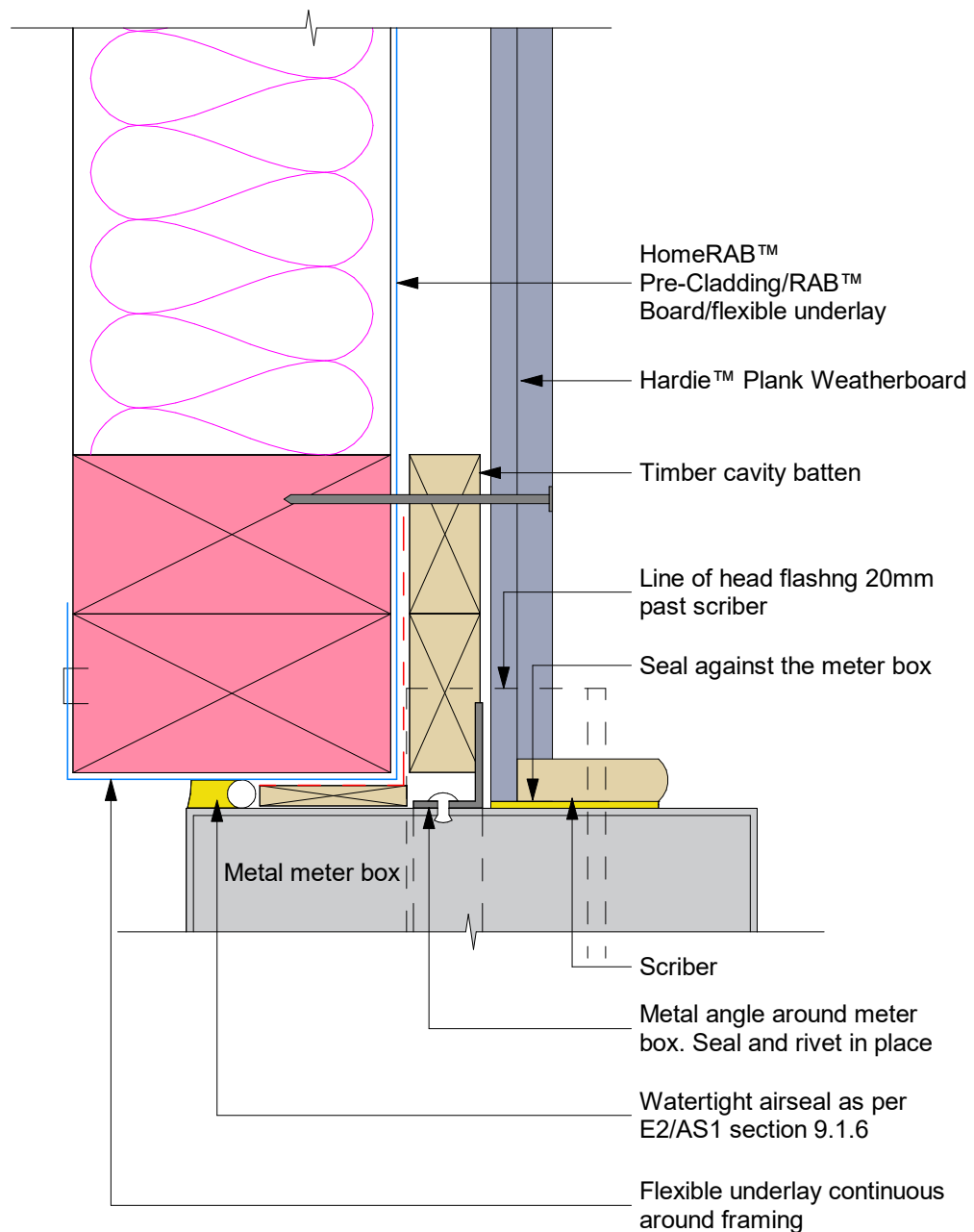


Figure 36: Cavity pipe penetration

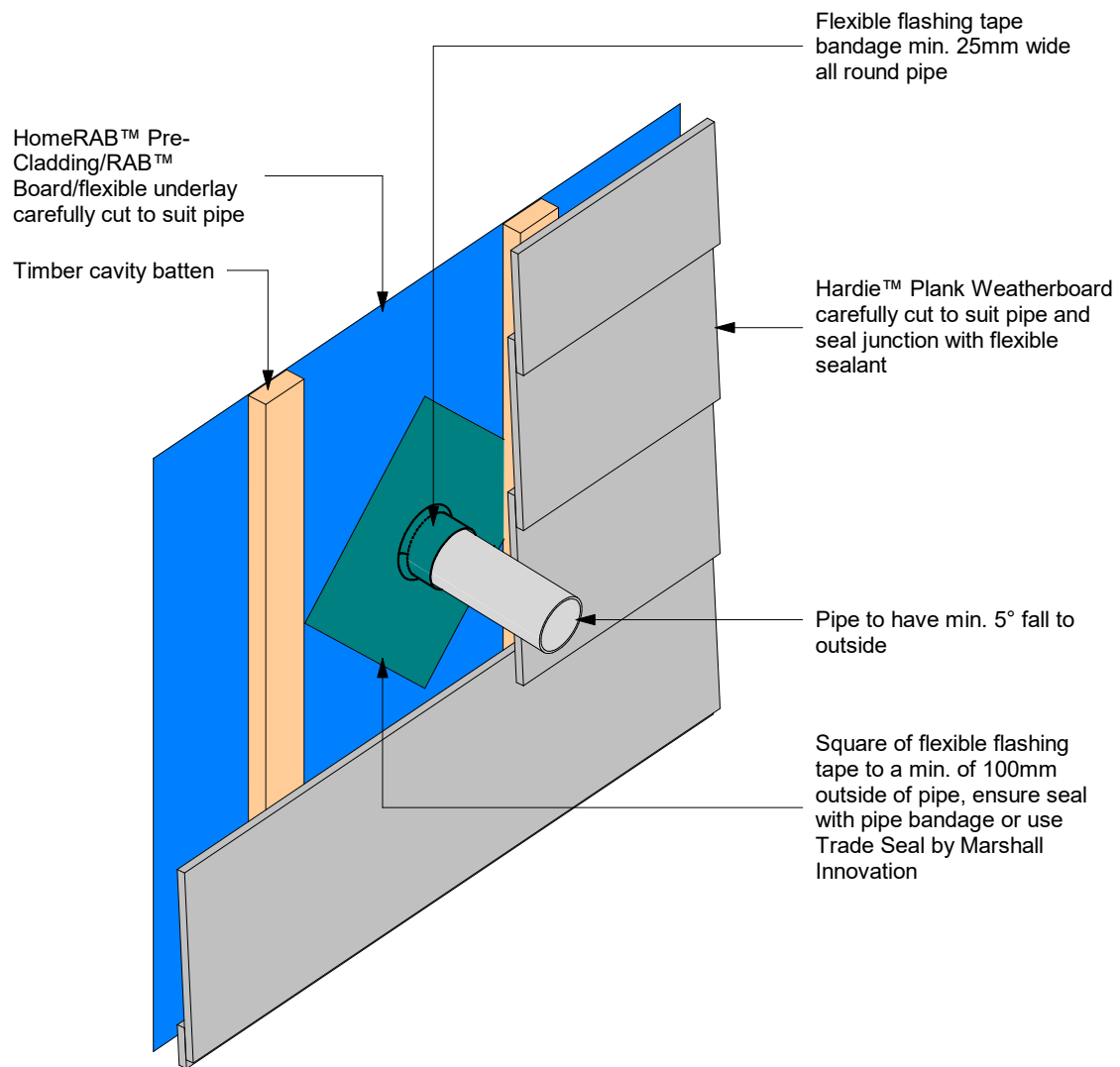
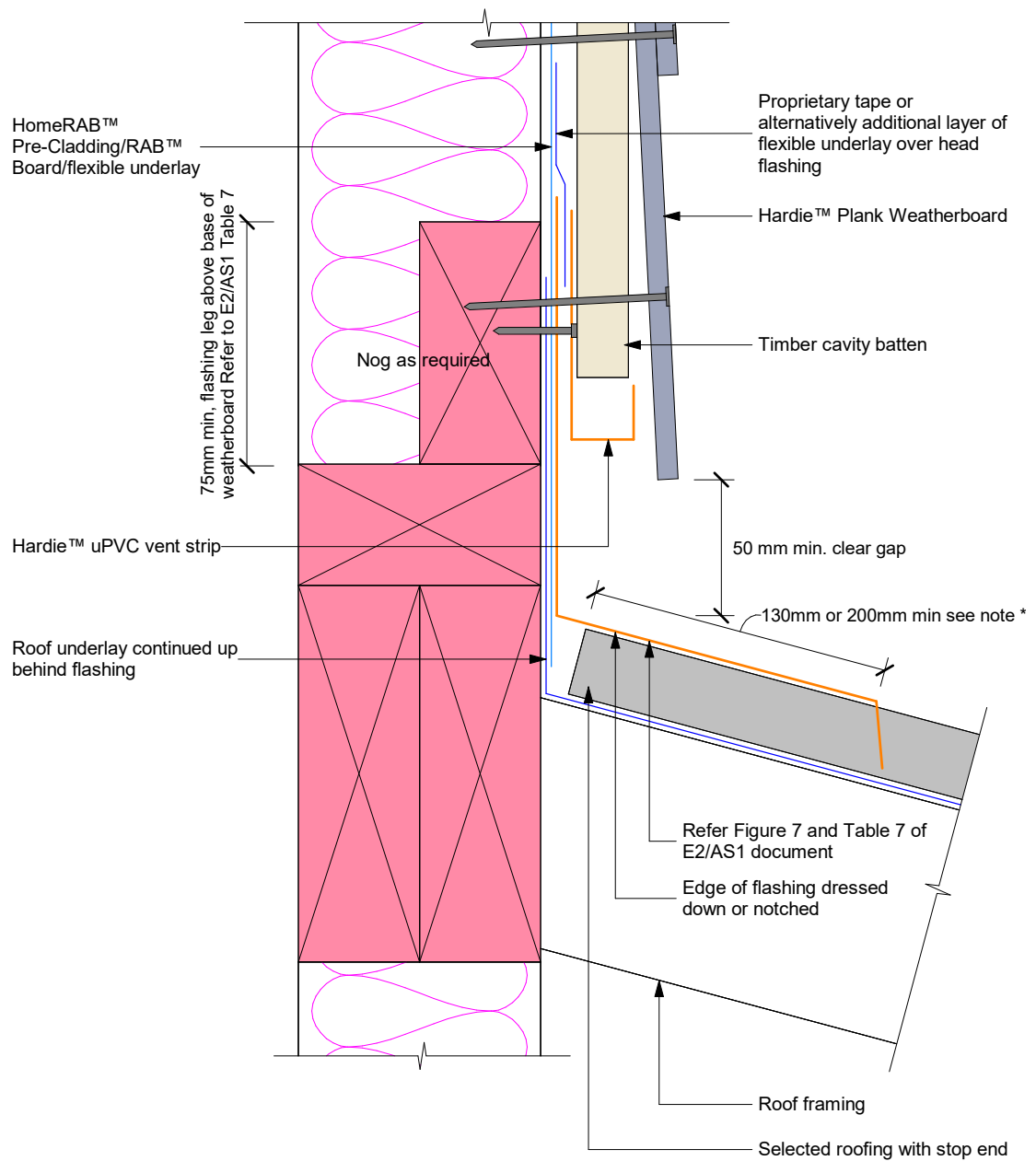


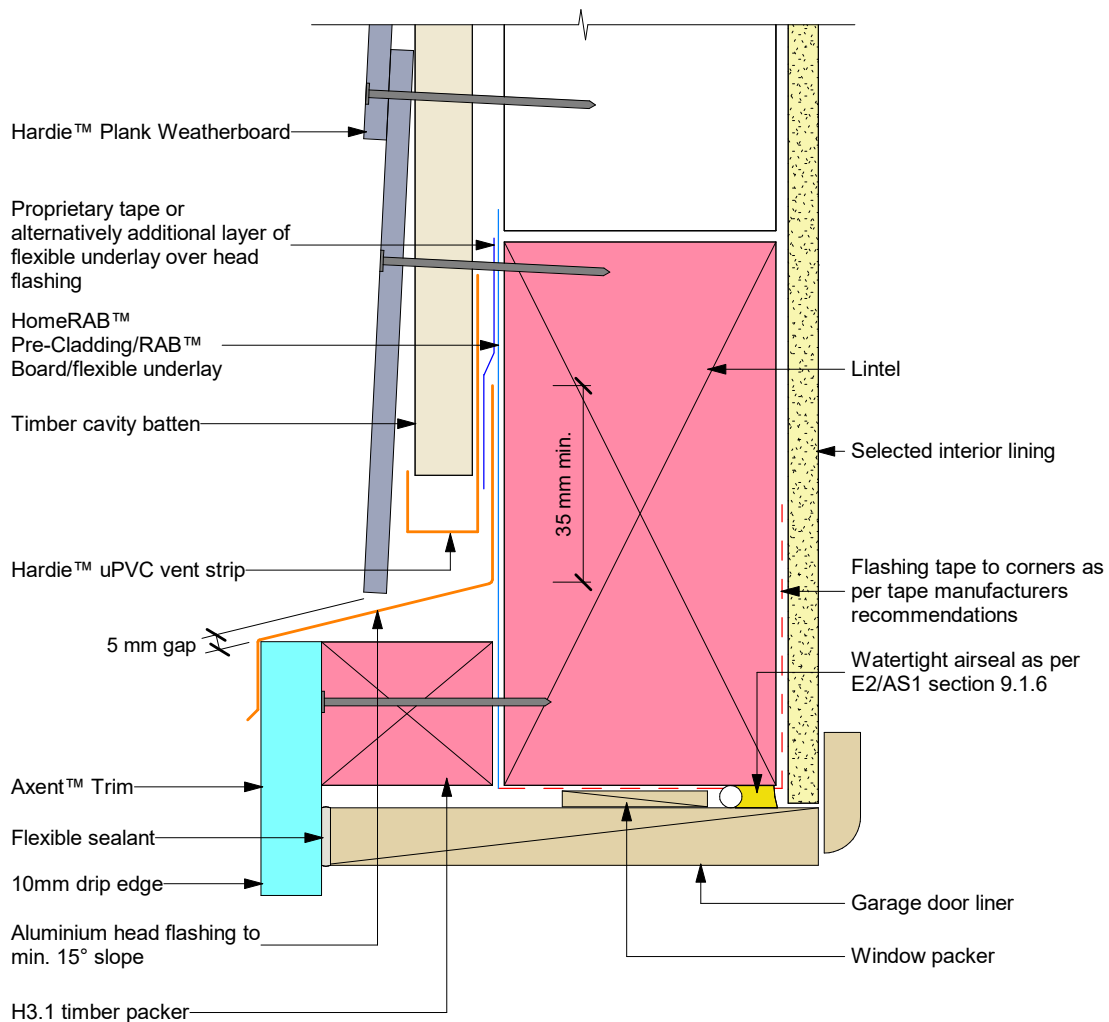
Figure 37: Cavity one piece apron flashing joint



Notes:

* When 50 year durability for flashing is required refer to Table 20 of E2/AS1 of the NZBC

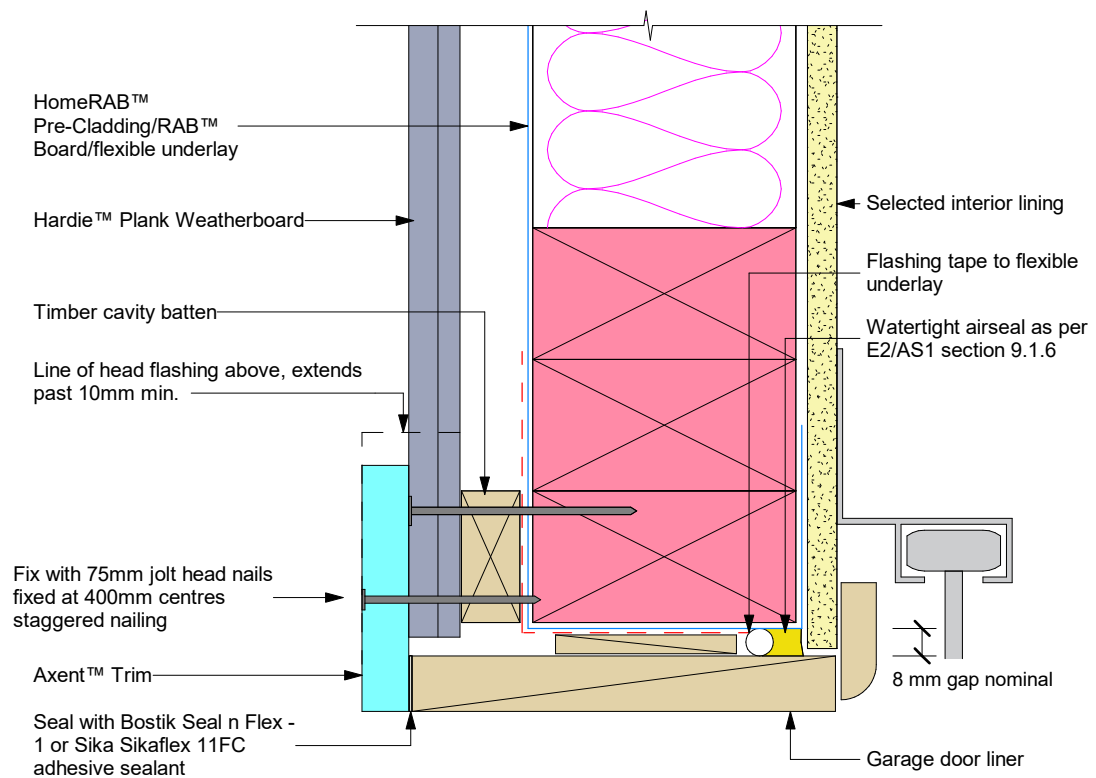
Figure 38: Garage door jamb



Note:

- Sealant must be applied between head flashing and liner in VH and EH wind zones and SED wind pressures

Figure 39: Garage jamb as per Linea Cavity



Notes

Notes

Hardie™ Plank Weatherboard

Product Warranty

James Hardie New Zealand Limited ("James Hardie") warrants for a period of 15 years from the date of purchase that the Hardie™ Plank Weatherboard (the "Product"), will be free from defects due to defective factory workmanship or materials and, subject to compliance with the conditions below, will be resistant to cracking, rotting, fire and damage from termite attacks to the extent set out in James Hardie's relevant published literature current at the time of installation. James Hardie warrants for a period of 15 years from the date of purchase that the accessories supplied by James Hardie will be free from defects due to defective factory workmanship or materials.

Nothing in this document shall exclude or modify any legal rights a customer may have under the Consumer Guarantees Act or otherwise which cannot be excluded or modified at law.

CONDITIONS OF WARRANTY:

The warranty is strictly subject to the following conditions:

- a) James Hardie will not be liable for breach of warranty unless the claimant provides proof of purchase and makes a written claim either within 30 days after the 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.
- b) This warranty is not transferable.
- c) The Product must be installed and maintained strictly in accordance with the relevant James Hardie literature current at the time of installation and must be installed in conjunction with the components or products specified in the literature. Further, all other products, including coating and jointing systems, applied to or used in conjunction with the Product must be applied or installed and maintained strictly in accordance with the relevant manufacturer's instructions and good trade practice.
- d) The project must be designed and constructed in strict compliance with all relevant provisions of the current New Zealand Building Code ("NZBC"), regulations and standards.
- e) The claimant's sole remedy for breach of warranty is (at James Hardie's option) that James Hardie will either supply replacement product, rectify the affected product or pay for the cost of the replacement or rectification of the affected product.
- f) James Hardie will not be liable for any losses or damages (whether direct or indirect) including property damage or personal injury, consequential loss, economic loss or loss of profits, arising in contract or negligence or howsoever arising. Without limiting the foregoing James Hardie will not be liable for any claims, damages or defects arising from or in any way attributable to poor workmanship, poor design or detailing, settlement or structural movement and/or movement of materials to which the Product is attached, incorrect design of the structure, acts of God including but not limited to earthquakes, cyclones, floods or other severe weather conditions or unusual climatic conditions, efflorescence or performance of paint/coatings applied to the Product, normal wear and tear, growth of mould, mildew, fungi, bacteria, or any organism on any Product surface or Product (whether on the exposed or unexposed surfaces).
- g) All warranties, conditions, liabilities and obligations other than those specified in this warranty are excluded to the fullest extent allowed by law.
- h) If meeting a claim under this warranty involves re-coating of Products, there may be slight colour differences between the original and replacement Products due to the effects of weathering and variations in materials over time.

Disclaimer: The recommendations in James Hardie's literature are based on good building practice, but are not an exhaustive statement of all relevant information and are subject to conditions (c), (d), (f) and (g) above. However, 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 its literature and the performance of the relevant system, including its suitability for any purpose or ability to satisfy the relevant provisions of the NZBC, regulations and standards, as it is the responsibility of the building designer to ensure that the details and recommendations provided in the relevant James Hardie installation manual are suitable for the intended project and that specific design is conducted where appropriate. Hardie™ Plank Weatherboard are classified as acceptable solution as per E2/AS1 and conforms to the requirements of the NZBC when installed in accordance with the Hardie™ Plank Weatherboard Technical Specification.

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