

# A-align Technical Manual

– Vertical Shiplap Weatherboard



- ✔ High Moisture Protection
- ✔ Fast Install & Less Waste
- ✔ Primed & Undercoated
- ✔ From Renewable Wood
- ✔ System Solution
- ✔ From Renewable Wood
- ✔ **BRANZ** Appraised
- ✔ **NZBC** Compliant



# A-lign<sup>®</sup> by Claymark aligns natural sustainable timber to modern design needs – combining striking good looks with guaranteed high performance.

## Renewable natural pine

The NZ radiata pine used in the A-lign Vertical Shiplap timber cladding system solution is from renewable and sustainable plantation resources.

It is a remarkably versatile timber renowned for exceptional machining properties, durability and lightness.

Once finger-jointed they form products that exceed the pine's original physical and structural characteristics by over 400%.

This makes it a brilliant natural 'environmentally friendly' construction choice over alternative building materials made from non-renewable fossil fuels.



## Brnz Impact Test

Impact resistance is a key criteria for cladding materials being used in the construction of schools and similar light commercial buildings not exceeding 10 metres in height. To meet regulatory and specifier requirements, A-lign Vertical Shiplap timber weatherboard (18mm thick) were subjected to hard body high impact resistance tests performed by BRANZ. High density fibre cement weatherboard (16mm thick) were also included in these tests. A-lign Vertical Shiplap timber weatherboard performed significantly better than the fibre cement weatherboard and, although the level of damage caused to both was small, the fibre cement weatherboard had a greater depth of ball indentation.

## Independently assessed

A BRANZ Appraisal is a comprehensive independent assessment of building products and systems for fitness for purpose and Building Code compliance.

The A-lign Vertical Shiplap timber cladding system solution has been vigorously assessed from manufacturing processes, through to fitness for purpose, durability, weather-tightness performance and structural capability over a drained and vented cavity.

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# Components

## H3.1 – Primed and undercoated

A-align Vertical Shiplap components	Item #	Size	Length	Profile
A-align Vertical Single Shiplap Weatherboard	05242	135 x 18mm	5.4 m	
A-align Vertical Single Shiplap Weatherboard	05309	135 x 18mm	7.2 m	
A-align Vertical Double Shiplap Weatherboard	05319	135 x 18mm	5.4 m	
A-align Vertical Double Shiplap Weatherboard	05322	135 x 18mm	7.2 m	
A-align Vertical Single Shiplap Weatherboard	05346	187 x 18mm	5.4 m	
A-align Vertical Single Shiplap Weatherboard	05338	187 x 18mm	7.2 m	
A-align Vertical Double Shiplap Weatherboard	05313	187 x 18mm	5.4 m	
A-align Vertical Double Shiplap Weatherboard	05316	187 x 18mm	7.2 m	
Align Vertical Triple Shiplap Weatherboard	05326	187 x 18mm	5.4 m	
Align Vertical Triple Shiplap Weatherboard	05329	187 x 18mm	7.2 m	
A-align Vertical Single Shiplap	05340	80 x 18mm	5.4 m	
A-align Vertical Castellated Structural Cavity Batten	05231	50 x 18mm	5.4 m	
A-align 14mm Flashing Batten	04563	45 x 14mm	5.4 m	
A-align Structural Cavity Batten	04934	45 x 19mm	5.4 m	
A-align Vertical Scriber	05506	12 x 18mm	5.4 m	
A-align Vertical Scriber	05509	22 x 18mm	5.4 m	
A-align Vertical Scriber	05512	35 x 18mm	5.4 m	
A-align Shiplap dual purpose external - internal weatherboard	05332	74 x 42mm	5.4 m	
A-align Shiplap dual purpose external - internal weatherboard	05335	74 x 42mm	7.2 m	
A-align Weatherhead and Sill Mould	04595	42 x 30mm	5.4 m	
A-align Eaves Mould	04576	42 x 18mm	5.4 m	
A-align Facing (grooved)	04573	42 x 18mm	5.4 m	
A-align Facing (double grooved)	04603	66 x 18mm	5.4 m	
	04606	90 x 18mm	5.4 m	
	04609	116 x 18mm	5.4 m	
	04612	138 x 18mm	5.4 m	
	04615	185 x 18mm	5.4 m	
A-align Pre-fabricated Box Corner	04592	102 x 102 x 18mm	5.4 m	



# Nailing Schedule

Description profile	Timber size (mm)	Nail size	Specification clause
A-lign Vertical Shiplap Cavity Fixed Weatherboard	80 x 18 135 x 18 / 187 x 18	60 x 2.8mm hot-dip galv or stainless steel ring shank jolt head nails for NZS 3604 Wind Zones up to and including Very High.  75 x 3.15 mm hot-dip galvanised or stainless steel ring shank jolt head nails for NZS 3604 Wind Zone Extra High, and specific design wind pressures up to and including design differential 2.5 kPa ULS.	
A-lign Structural Cavity Batten	50 x 18	60 x 2.80 hot dipped galv* or stainless steel ring shank Jolt head hand driven	9.3
		60 x 2.87 hot dipped galv* gun driven / 64 x 2.8 stainless steel ring shank gun driven	9.3
A-lign Vertical Shiplap Scriber	30 x 18	30 x 2.80 hot dipped galv* jolt head	10.6
A-lign dual purpose External & Internal Internal Corner	74 x 42	60 x 2.80 hot dipped galv* jolt head. Include gun nail.	10.8
A-lign Weatherhead and Sill Mould	42 x 30	60 x 2.80 hot dipped galv* jolt head	
A-lign Vertical Shiplap Bevelled Infill	9 x 8	30 hot dipped galv*	
Vertical Shiplap Square Infill	9 x 6	Panel pin hand driven	
A-lign Eaves Mould	42 x 18	60 x 2.80 hot dipped galv* jolt head	
A-lign Grooved Facing	All sizes	50 x 2.50 hot dipped galv* jolt head	11.4
A-lign Prefabricated Box Corner	102 x 102	50 x 2.50 hot dipped galv* jolt head	10.6
Quickflash Flashings	All sections	30 x 2.50 hot dipped galv* flat head/clouts	2.3, 6.1 and 9.4

**Note: Hot dip galvanising must meet the requirements of AS/NZS 4680:2006**

**\* In Exposure Zone D (refer to NZS 3604 paragraph 4.2.3) all fixings must be type 316 stainless steel**



## Scope

The A-lign Timber Cladding Solution can be used for the cladding specification of light commercial and domestic buildings where the:

- Building is within the scope of NZS 3604 timber framed buildings and E2/AS1 with a risk score of 0- 20.
- Building height does not exceed 10 metres.
- Building is situated NZS 3604 Building Wind Zones up to, and including 'Extra High'.
- Cladding solution uses the A-lign accessories and Quickflash flashing given in this specification.

**Note:** The A-lign Timber Cladding Solution can also be used for cladding timber and steel framed buildings subject to specific design, up to a design differential ultimate limit state (ULS) wind pressure of 2.5 kPa.

## These specifications:

- Cover the installation of A-lign vertical shiplap weatherboard as a complete cladding solution following the details given in this document and associated CAD files.
- Must be made specific to each building project by including only those clauses that apply and omitting those that do not apply.
- Are written as direct instructions to the contractor (it does not make use of the words 'should' or 'shall') and this format must be adhered to.

**Note:** The success of the cladding solution is partially dependent on the stability and accuracy of the framing which must meet the minimum standards set by NZS 3604.

**Note:** The CAD drawings in this Manual are current at the date of this Manual (July 2017). For any amendments or updates to these diagrams or drawings, please refer to our website: [www.claymark.com/triptech/a-lign-vertical-cad-details](http://www.claymark.com/triptech/a-lign-vertical-cad-details)

# — Specifications for exterior cladding

## 1.0 Before application of the cladding

Before beginning installation of the A-lign Timber Cladding Solution ensure that:

- The framing complies with the requirements of NZS 3604 timber framed buildings.
- The framing is straight and within the tolerances allowed by Table 2.1 Tolerances of NZS 3604.
- The moisture content of the framing timber does not exceed 20%.
- Additional studs are included at internal corners where there is a cavity.
- The wall underlay complies with the requirements of Table 23 E2/AS1 and is installed in accordance with Section 5.0-5.4 of this specification.
- Window and meter box openings are framed out to give a 7.5mm minimum clearance between the reveal or window frame and the trimmed opening (5mm minimum finished clearance when window installed).

## 2.0 A-lign weatherboard

### 2.1 Vertical Shiplap weatherboard sizes

- 80 x 18mm
- 135 x 18mm
- 187 x 18mm

Lengths 5.4m and 7.2m

### Vertical Shiplap dual purpose external and internal corner weatherboard

- 74 x 42mm

Lengths 5.4 or 7.2m

### 2.2 A-lign timber accessories

**Note: A-lign accessories are finger-jointed, treated to H3.1 and primed and undercoated. The A-lign structural cavity batten is treated but not painted.**

- A-lign prefabricated 102 x 102mm box corner in 5.4m and 7.2 lengths.
- A-lign pre-cut scribe with pencil edge in 5.4m lengths.
- A-lign facing boards – available in 42, 66, 90, 116, 138, 185 x 18mm thickness in 5.4m lengths.
- A-lign vertical Shiplap bevelled infill 4 x 8mm in 5.4 lengths.

- A-lign vertical Shiplap square infill 9 x 6mm in 5.4 lengths.
- A-lign castellated structural cavity batten – 50 x 18mm in 5.4m lengths.
- A-lign soffit eaves mould – 42 x 18mm in 5.4m lengths.
- A-lign weatherhead and sill mould – 42 x 30mm in 5.4m lengths.

### 2.3 Accessories by Quickflash

Use of Quickflash flashings are an integral part of the A-lign cladding system solution as defined in the CAD drawings. Select the flashings required.

## 3.0 Detailing

A-lign Vertical Shiplap weatherboard CAD details are contained in this document.

## 4.0 A-lign Concealed Fix on site

**Arrange for delivery of A-lign Vertical Shiplap timber weatherboards just prior to being required.**

### 4.1 Storage

**Note: Correct storage of weatherboards on site is critical.**

A-lign weatherboards, structural cavity battens and accessories have been machined to fine engineered tolerances from finger-jointed clear wood base material with an equilibrium moisture content of 11% plus or minus 2%. If A-lign weatherboards, structural cavity battens and accessories are exposed to moisture before installing, as wood is hygroscopic and primers do not prevent moisture uptake, some dimensional swelling will occur and the ease of the system installation will be impaired. Correct storage of the weatherboards, battens and accessories is critical for ease of installation. Covered storage is recommended. If indoor storage is not possible the product must be protected from moisture uptake from damp ground. Material should have a minimum of 150mm ground clearance on evenly placed bearers. In addition to the factory wrap a secondary site cover and ground sheet should be used.



# — Specifications for exterior cladding

## 4.2 Handling

Do not tip the weatherboards from a truck. Either use a mechanical lifting device hiab or similar or unload the weatherboards by hand.

Do not drag weatherboards across the ground.

Always carry individual weatherboards with their long section vertical to avoid excessive bending.

## 5.0 Wall underlays

**Note: A wall underlay is any material placed on the framing and behind the cladding to act as a second line of weathering defence.**

**Note: The selected wall underlay must have a serviceable life of at least 50 years. The selection of a non rigid or rigid underlay is the designers decision.**

Wall underlays include flexible materials, such as Kraft based papers or synthetic wraps, and rigid sheathings such as plywood or fibre cement board.

Wall underlays suitable for use with the A-align Vertical Shiplap timber cladding system solution are those meeting the requirements of Table 23 of E2/AS1.

## 5.1 Flexible underlays

**Note: Specify the actual name/insert specific manufacturer/product of underlay you wish to have installed and select the specific installation instructions.**

A wall underlay complying with the requirements of E2/AS1 Table 23 must be installed to the outer face of the wall framing.

### Select one option from the following:

- Heavyweight bitumen soaked Kraft paper (insert specific manufacturer/product).
- Absorbent synthetic wall underlay (insert specific manufacturer/product).
- Non-absorbent synthetic wall underlay (insert specific manufacturer/product).

For buildings with other than flush-stopped sheet internal linings or areas of unlined wall, the wall underlay must meet the air-tightness requirement of E2/AS1 Table 23.

Openings for windows, doors and meter boxes must have the opening trimmed with flexible flashing tape compatible with the wall underlay, as required by details in E2/AS1.

**Note: The detailing and finishing of framed openings for Smartfit Joinery must be completed in accordance with the Smartfit Technical Literature.**

## 5.2 Rigid underlay installation

Generic rigid sheathing materials must be installed in accordance with NZBC Acceptable Solution E2/AS1 and be overlaid with a flexible wall underlay

Proprietary systems shall be installed in accordance with the manufacturer's instructions.

Particular attention must be paid to the installation of the wall underlay and sill and jamb tapes around window and door openings to ensure a continuous seal is achieved and all exposed wall framing in the opening is protected.

## 5.3 Flexible wall underlay

Lay the wall underlay horizontally across the framing members with a minimum 150mm overlap at all joints.

Cover the wall from bottom to top plate.

Run material continuously around internal and external corners – do not join material at corners.

Install taut and ensure that there are no creases in the underlay.

Fix with clips or staples and tape in accordance with the underlay manufacturer's instructions.

Turn wall underlay into the framing all round windows, doors and meter box openings and finish the opening with flexible flashing tape in accordance with the tape manufacturers instructions.

Repair all holes or tears in the underlay before commencing cladding installation. Ensure the underlay has not been exposed to the weather for more than the time allowed by the underlay manufacturer.

## 6.0 Flashings

**Note:** Flashings as noted on the construction details must be provided and may be made from either sheet steel with a galvanized or zinc/aluminium alloy coating, aluminium or from stainless steel. They may be factory pre-finished if required. Refer to NZS 3604 section 4 or E2/AS1 Table 20 for durability requirements.

### 6.1 Supply

Flashings for use with the A-lign Timber Cladding Solution are those manufactured by Quickflash as detailed in the CAD drawings or BRANZ appraised alternatives.

Where the A-lign system abuts a different cladding, use flashings as shown in the A-lign CAD details.

Aluminium window head flashings are the responsibility of the window supplier.

### 6.2 Materials

**Note:** Select the appropriate material for the environment.

#### Select the flashing material from:

- 0.55 BMT galvanised sheet steel.
- 0.55 BMT zinc/aluminium alloy coated.
- 0.55 BMT galvanised sheet steel factory coated.
- 0.55 BMT zinc/aluminium alloy coated factory coated.
- 316 grade stainless steel.
- 0.9mm powder-coated aluminium for window head flashings – window head flashing by window supplier.

### 6.3 Fabrication and installation

Flashings must be machine bent accurately to the detailed profile.

Where necessary, site-cut each flashing to suit each circumstance and form stop-ends where appropriate.

Fix flashings using compatible fixings and ensure that the building underlay is installed as shown in the A-lign CAD details.

Isolate zinc/aluminium alloy coated steel, galvanised steel and uncoated aluminium flashings from timber treated with copper-based treatments with a layer of kraft paper wall underlay.

## 7.0 Sealants

**Note:** Sealants are used to assist with weathering at joints and laps. Sealants must not be relied on for primary weather protection.

### 7.1 Materials

Sealant suitable for use with the A-lign Timber Cladding Solution is a (specify brand/manufacturer) sealant complying with E2/AS1 or a sealant covered by a valid BRANZ Appraisal used in accordance with the manufacturer's instructions.

## 8.0 Air seals

**Note:** Air seals are an essential element of the air barrier component of the cladding solution. They complete the air barrier by sealing between the wall underlay / flashing tape and the door and window reveals and meter boxes. The air seal is formed by applying sealant over a backing rod to which the sealant will not bond or by using self-expanding polyurethane foam over a backing rod.

### 8.1 Materials

**Backing rod:** Closed cell PEF rod of a diameter to suit the gap.

**Air seal:** Acrylic latex or modified silicon sealant complying with ISO 11600 used in accordance with the manufacturer's instructions or low expansion self-expanding polyurethane foam in accordance with the requirements of E2/AS1. Check the compatibility of the sealant with the selected flashing tape.

### 8.2 Installation

Insert the backing rod into the gap between the window reveal/meterbox and the trim framing to the perimeter of the opening. Press in approximately 15mm.

Apply the sealant/expanding foam.

Trim off excess material.

# — Specifications for exterior cladding

## 9.0 Drained and vented cavities

**Note:** For designs following E2/AS1 a drained and vented cavity is required behind vertical shiplap weatherboards when the weather tightness risk score for that building face exceeds 6. The cavity is formed by fixing A-lign treated castellated battens over the dwangs. A-lign cavity battens are to be structurally fixed in accordance with BRANZ Bulletin 582. Vermin proofing, which allows draining and ventilation, must be fitted to the bottom of the cavity.

### 9.1 Design

The cavity must be open to the exterior at the bottom of every second storey and across the tops of windows, doors and other penetrations such as meter boxes. Fit Quickflash cavity closures to prevent vermin entry.

### 9.2 Materials

**Structural Battens:** A-lign castellated structural cavity battens – 50 x 18mm are treated to H3.1.

**Cavity closure:** Zinc/aluminium alloy coated steel, aluminium or stainless steel supplied by Quickflash with a minimum ventilation area of 1000mm<sup>2</sup> per lineal metre of wall.

### 9.3 Fixing Vertical Shiplap structural cavity battens

**Note:** Refers to the fixing of A-lign cavity battens, over wall underlay, to the dwangs. This allows the A-lign Vertical Shiplap weatherboard to be fixed directly to the cavity battens eliminating the need for larger fixings (refer 10.1 fixings).

#### Fix batten as follows:

- Over framing members.
- With a gap between battens at corners.
- Fix A-lign structural cavity battens over wall underlay to dwangs at 480mm centres maximum with 60 x 2.80 hot dipped galvanised or stainless steel ring shank jolt head hand driven, or 60 x 2.87 hot dipped galvanised gun driven/64 x 2.8 stainless steel ring shank gun driven at 300mm centres. Stagger fixings 12mm either side of the batten centre line.
- Battens are machined with centre lines to ensure correct nailing placement when fixing batten and weatherboard.

### 9.4 Cavity closure

Fit continuous Quickflash cavity closure trim to the bottom of all cavities, including across the tops of openings to prevent vermin entry. Fix with 30 x 2.50mm galvanized flat head nails/clouts at 400mm centres.

## 10.0 Fixing A-lign Vertical Shiplap weatherboard

**Note:** In Exposure Zone D (refer to NZS 3604 paragraph 4.2.3) all fixings must be type 316 stainless steel. Hot-dip galvanising must meet the requirements of AS/NZS 4680:2006.

### 10.1 Fixings

#### A-lign vertical shiplap weatherboards fixed to A-lign structural cavity batten:

A-lign vertical shiplap weatherboard fixings over structural cavity battens (Timber Frame): 60 x 2.8mm hot-dip galvanised or stainless steel ring shank jolt head nails for NZS 3604 Wind Zones up to and including Very High, or 75 x 3.15 mm hot-dip galvanised or stainless steel ring shank jolt head nails for NZS 3604 Wind Zone Extra High, and specific design wind pressures up to and including design differential 2.5 kPa ULS.

A-lign vertical shiplap weatherboard fixings (Steel Frame): AS 3566 Corrosion Class 4 hot dip galvanised self-drilling screws with an outside thread diameter of 4.7 mm minimum in NZS 3604 Exposure Zones B and C and Grade 316 stainless steel self-drilling screws with an outside thread diameter of 4.7 mm minimum in NZS 3604 Exposure Zone D. The screw length must allow a 10 mm minimum penetration through the steel frame.

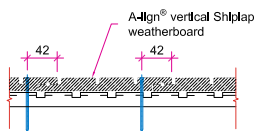


## 10.2 Fixing method

**Note:** Hand nailing is recommended by Claymark. Some gun driven fixings may bruise the surface. If the builder asks to use them it is important that they be tested to make sure that they do not damage the finished surface. A check should also be made as to the adequacy of the galvanised casting.

**Note:** It is important to use only one fixing per board on each batten line to allow for movement.

Fix each board with one nail per board on each batten line. Locate fixing 42mm from the edge of the overlap board to allow for expansion and contraction. Refer to diagram below



Start fixing weatherboards near the middle of the board and work outwards to the ends.

Pre-drill for fixings if within 50mm of the end of the board.

Punch all nails 2mm below the face of the board.

## 10.3 Setting out

**Note:** Movement across the width of A-lign vertical shiplap weatherboards must not be restricted by board rebates.

The lap of A-lign vertical is 26mm.

A nail fixing tool is available to ensure the vertical board is positioned with a 2mm expansion gap and weather grooves. Refer to above drawing.

## 10.4 Fixing procedure for A-lign Vertical weatherboards

Establish the position of the A-lign weatherboard to give a minimum overlap of 50mm below the bottom plate or bearer.

## 10.5 Joining weatherboard

**Note:** Inter-storey drained joints must be provided to limit continuous cavities to the lesser of 2-storeys or 7 metres in height, in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.1.9.4(b).

Fix weatherboards in full wall heights where possible. One scarf joint shall be permitted per 7m of wall height.

Prime all cut-ends, notches and trimming with End Seal aerosol primer, or with two coats of premium timber primer before fixing. Allow to dry between coats.

Special care must be taken to ensure adequate sealing, priming & top coating of weatherboard ends to protect against end checking.

## 10.6 External box corners

Fit A-lign pre-fabricated 102 x 102 x 18mm external box corner with a minimum of 50mm cover over the weatherboards and fix with two 50 x 2.50mm galvanised jolt head nails.

Locate the two fixings on the centre of each batten line (approximately 480 centres).

### Install:

- A 65 x 65mm Quickflash hemmed angle back flashing as detailed.

Join the weatherboards with a tightly fitting butt angle joint.

## 10.7 Dual Purpose external and internal corner

Detail the use of 74 x 42mm internal corner profile or butt internal corner.

# — Specifications for exterior cladding

## 11.0 Window and door openings

**Note:** The integrity of the junctions at the interface of the cladding and the window and door openings is a vital part of the weatherproofing system. Care must be taken to ensure that the work is carried out correctly and that all flashings, weatherings and air seals are in place.

**Note:** This specification applies to the use of aluminium windows and doors that are in accordance with E2/AS1 paragraph 9.1.10. Use of bi-fold, sliding or other non-hinged windows and doors and timber windows and doors must be submitted to the Building Consent Authority as an Alternative Solution to NZBC Clause E2/AS1.

### 11.1 Aluminium windows

**Aluminium windows installed into an A-lign Vertical Shiplap timber cladding system solution must:**

- Comply with NZS 4211 for the building location.
- Have a minimum 10mm flange covering the weatherboard trim.
- Incorporate scribes or facings to the flange.
- Window support bars for trim opening wider than 600mm. Refer to E2/AS1 – 9.1.10.5
- Have window trimmed openings constructed as shown in E2/AS1 with flexible flashing tapes and air seals.
- Refer to SmartFit joinery technical literature for the installation requirements of Smartfit windows and doors.

### 11.2 Timber windows

**Note:** Timber windows within a weatherboard cladding are not covered by E2/AS1 and must be consented by a BCA as an Alternative Solution.

**Timber windows installed into a A-lign timber cladding system solution must:**

- Have profiles in accordance with NZS 3610.
- Incorporate facings and scribes.
- Incorporate full width sill tray flashings.
- Have window trimmed openings constructed as shown in E2/AS1 with flexible flashing tapes and air seals.

### 11.3 Flashings

Flashing material and fabrication in accordance with section 6.0 of this specification. Stop-ends to finish at back of cladding.

**Head flashings must have:**

- 10mm stop-ends when used with a 20mm cavity.
- 15° cross fall.
- 10mm min cover to the window flange.
- 50mm min back upstand to give 35mm min cladding cover.

### 11.4 A-lign facings

Fit A-lign grooved facings with a minimum of 50mm cover over the weatherboards and fix with two, 50 x 2.50mm hot dipped galvanised jolt head nails.

Locate the fixings of each batten line or at approximately 480 centres.

### 11.5 Air seals

On completion fit air seals around all window and door openings as specified.

## 12.0 Painting A-lign

### 12.1 Materials

A premium Dulux alkyd factory primer and undercoat has been applied in two separate coats. Site prime all bare timber surfaces and cut-ends with End Seal aerosol primer, or with two coats of premium timber primer before fixing. Allow to dry between coats.

Special care must be taken to ensure adequate sealing, priming and top coating of weatherboard ends to protect against checking.

Finishing coats: 100% premium acrylic house paint (insert specific manufacturers product) as specified in Parts 7, 8, 9 and 10 of AS 3730.

### 12.2 Painting

**Note:** Resin bleed may occur from timber in hot conditions or where painted in dark colours. Adherence to the above specification will help minimise the problem.

**Note:** Primers cannot withstand exposure to weather for extended periods. Contact Claymark if exposed for longer than 6 weeks.

**Note:** Using light colours lessens the chance of distortion by reducing solar heat build up in the weatherboards.

**Note:** A-lign Vertical is available with factory applied top coat option to owners colour choice. Factory applied top coats can allow greater consistency and accuracy of film build, speed and offer more weather protection during construction.

Carry out all painting work in accordance with the appropriate clauses of AS/NZS 2311 Guide to Painting of Buildings.

Finishing coats to be applied after installation of the exterior sheathing, joinery and trim.

Prior to applying finishing coats ensure no moisture related dimensional swelling is evident by measuring profiles against original profile sizes. If swelling is present, delay finish coating until the timber profiles have returned to their original machined sizes.

Fill all nail holes with an exterior grade filler, sand to a smooth surface and spot-prime filled areas and wherever the coating is damaged.

Apply two full coats of 100% premium acrylic house paint with a gloss level of 10% and a Light Reflective Value of 45% or greater (ASTM C1549 or ASTM E903).

## **13.0 General information**

### **13.1 Handling**

Store the product where it is dry and kept off the ground using bearers. If stored outside use a secondary waterproof cover but allow for good air circulation. When handling, take care to avoid any damage to surfaces.

### **13.2 Installation**

Avoid scratching or marking of the board during cutting and installation. Prime the cut-ends of scarf joints with End Seal aerosol primer, or with two coats of premium timber primer before fixing. Allow to dry between coats.

See section 13.4 Time To Complete Painting.

### **13.3 Finishing**

Remove all loose material, dirt etc. Spot prime exposed bare timber with selected premium timber primer, putty all nail holes, use a filler and sealants nominated as exterior type suitable for overcoating with 100% acrylic paint. Apply two coats of 100% premium acrylic house paint as per instructions on the container.

### **13.4 Moisture**

Tannin extracts (dark stains in the film) are a result of the board being allowed to get wet. This is neither a board nor paint issue as it is a result of excessive moisture, which infiltrates the board through not following these guidelines. After installation of the board it is recommended that the painter be allowed to complete the finishing work as soon as practical but within 6 weeks if exposed to weather. Refer to 12.2 Painting.

### **13.5 Heat generating colours**

Dark colours absorb heat from the sun. Light colours reflect significantly more heat. Testing has shown that dark colours can generate temperatures in excess of 85°C in direct sunlight, whereas light colours under the same conditions can be as much as 35°C cooler. It is recommended that the chosen colour therefore has a Light Reflective Value greater than 45 (LRV of white is 95/100, LRV Black is 0).

## **14.0 Building maintenance**

### **14.1 New construction**

Building movement and settlement is inevitable. Paint coatings are affected by this occurrence whether it be a concrete or timber substrate. It is important to deal immediately with new issues that are as a result of substrate movement in the case of timber it is movement of the board. Make good these areas by priming and then touching up with the original, topcoat paint.

### **14.2 Regular washing**

Exterior building surfaces benefit from being cleaned regularly. This is particularly important under eaves and overhangs. Mould, fungi and marine salts can have a detrimental effect on the paint coating and the substrate if left. Arrange to lightly wash all surfaces at least annually. This is particularly important in a marine environment.



# — Specifications for exterior cladding

## 14.3 Maintenance painting

When required use a premium primer and undercoat, followed by the topcoat originally selected. In some circumstances where maintenance is delayed for many months it may be required to make good the repair area and then fully coat the whole section because of the change in the appearance of the coatings. Loss of gloss, colour change, etc. is normal for paint.

Mostly walls facing north will be subject to this requirement, particularly if maintenance is delayed.

It is however, beneficial for both the paint film and the substrate to apply another coat. This maintenance should be viewed as a positive outcome for both the paint, the substrate and your investment in the home/building.

Building movement normally reduces over time. Experience has shown that areas that have been subject to maintenance in the main do not require further repairs providing the substrate is not subjected to continual movement.

As part of your maintenance, always check flashings, sealants and fastenings to ensure they do not permit the passage of water into the substrate. Left unchecked, water entry into the substrate can cause substantial damage which can become expensive to remedy.

Follow these instructions to ensure that your investment in A-lign Vertical Shiplap natural solid timber products will stand the test of time.

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**For more information on A-lign Vertical Shiplap call the Claymark Helpline on:**

**0800 25 44 61**

Monday to Friday 8am–5pm

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**For more technical information and downloadable CAD and 3-D drawings, visit:**

**[claymark.co.nz](http://claymark.co.nz)**



Note: The CAD drawings in this Manual are current at the date of this Manual (July 2017). For any amendments or updates to these diagrams or drawings, please refer to our website: [www.claymark.com/triptech/a-lign-vertical-cad-details](http://www.claymark.com/triptech/a-lign-vertical-cad-details)

# A-align Vertical Shiplap Warranty

## Warranty

Claymark Limited ('Claymark Ltd') warrants for a period of 15 years from the date of purchase that its Claymark A-align cladding and Claymark A-align accessories (The 'Products'), will be free from production defects, and subject to compliance with the conditions below, will be resistant to cracking, rotting, and damage from borer attacks to the extent set out in Claymark Ltd's product literature current at the time of installation.

The A-align Technical Manual sets out the approved and recommended methods for cladding installation. A copy of the A-align Technical Manual is available from Claymark Ltd, phone toll free on: 0800 25 44 61, Monday to Friday 8am–5pm.

## Conditions of Warranty

### The warranty is strictly subject to the following conditions:

- (a)** The Products must be installed by a competent and qualified builder, strictly in accordance with the A-align Technical Manual current at the time of installation, utilising A-align components or products specified in the A-align Technical Manual. Where the A-align Technical Manual does not provide a suitable detail for installation of The Products then installation must be in accordance with best trade practice determined in consultation with the Territorial Authority and designer of the building works. Further, all other products, including coating and jointing systems, applied to or used in conjunction with The Products must be applied or installed strictly in accordance with the relevant manufacturer's instructions and best trade practice.
- (b)** Claymark Ltd will not be liable under this warranty unless a written claim is notified to Claymark Ltd within 30 days of the defect becoming reasonably apparent.
- (c)** This warranty is for the benefit of the original owner of the building where the A-align cladding has been installed. This warranty is not transferable to subsequent owners of the building.
- (d)** The Products must be maintained strictly in accordance with the A-align Technical Manual. Further, all other products, including coating and jointing systems, applied to or used in conjunction with The Products must be maintained strictly in accordance with the relevant manufacturer's instructions and best trade practice.
- (e)** The building works in which The Product has been incorporated must be designed and constructed in strict compliance with all relevant provisions of the current New Zealand Building Code ('NZBC'), regulations and standards, and the Building Consent relating to the building works.
- (f)** The customer's sole remedy under this warranty is (at Claymark Ltd's option) that Claymark Ltd will either supply replacement Products, rectify the affected Products or pay for the cost of the replacement or rectification of the affected Products.
- (g)** Claymark Ltd will not be liable for any losses or damages (whether direct or indirect) including property damage, personal injury, consequential loss, economic loss or loss of profits, arising in contract or negligence or howsoever arising. Without limiting the foregoing, Claymark Ltd 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 Products are 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 Products, normal wear and tear, growth of mould, mildew, fungi, bacteria, or any organism on the surface of any Products (whether on the exposed or unexposed surfaces).
- (h)** All warranties, conditions, liabilities and obligations other than those specified in this warranty are excluded to the fullest extent permitted by law. This warranty does not exclude or modify any legal rights a customer may have under the Consumer Guarantees Act 1993. Unless otherwise specified in writing at the time of sale, Claymark Ltd assumes no liability for The Products being fit for any particular purpose under the Building Act 2004, other legislation or at common law.
- (i)** If any remedial work undertaken under this warranty involves re-coating of The Products, the customer acknowledges and agrees that there may be slight colour differences between the original and replacement Products due to the effects of weathering and variations in materials over time.

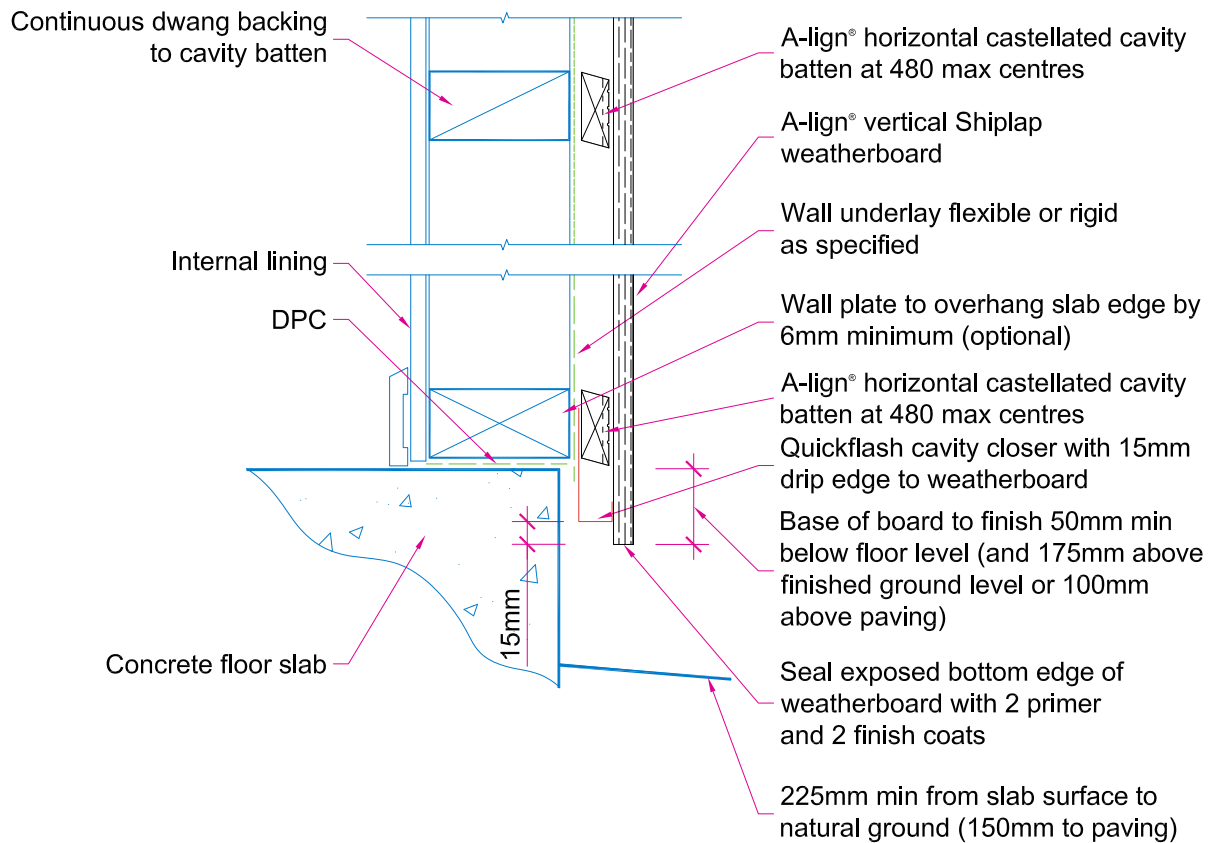
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<b>Figure 9.02</b>	base of wall – timber floor	15	<b>Figure 9.20</b>	above stucco	31
<b>Figure 9.03</b>	eaves – angled soffit	16	<b>Figure 9.26</b>	external corner – masonry veneer	32
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<b>Figure 9.17</b>	meter box	30			
<b>Figure 9.18</b>	external corner – pre-fabricated box – stucco	30			

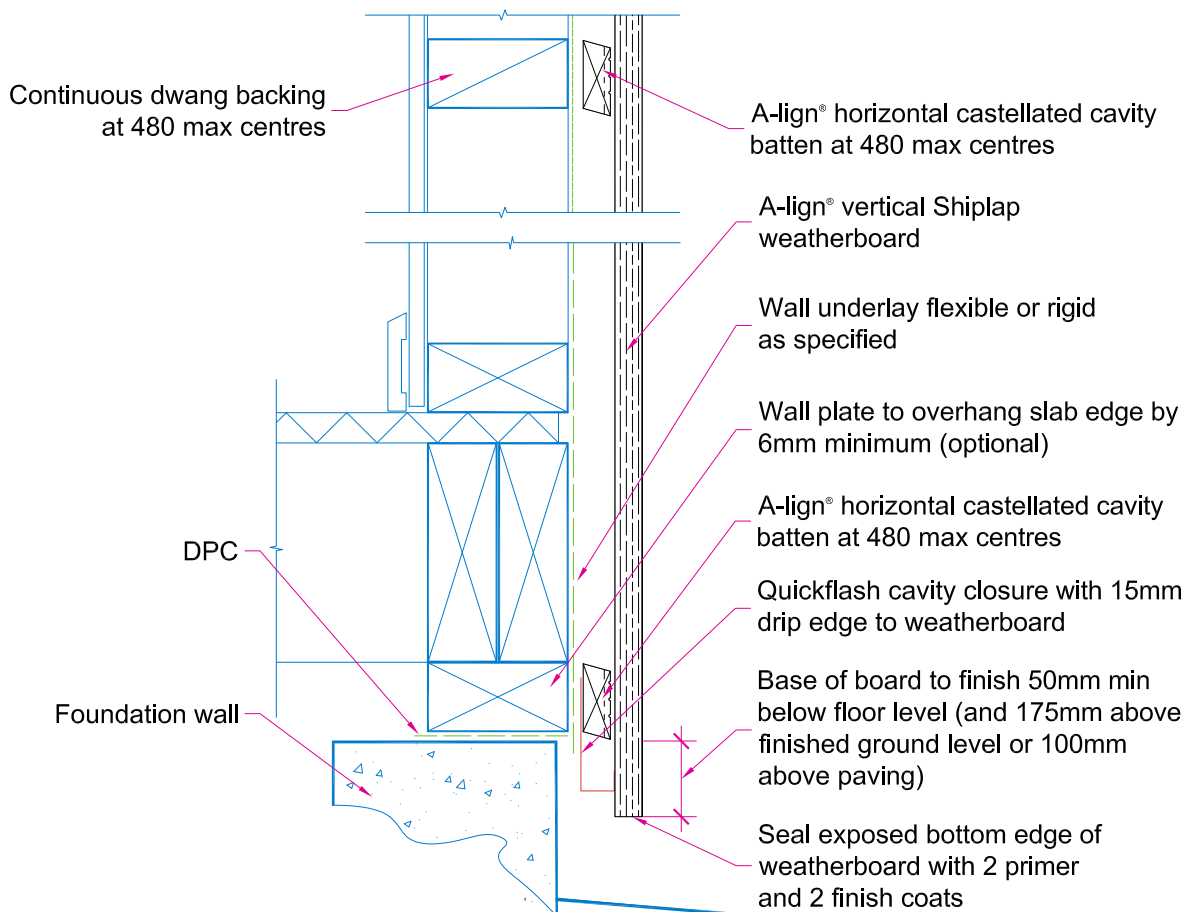
Please note: All drawings are available as downloadable files from our website:

[claymark.co.nz](http://claymark.co.nz)

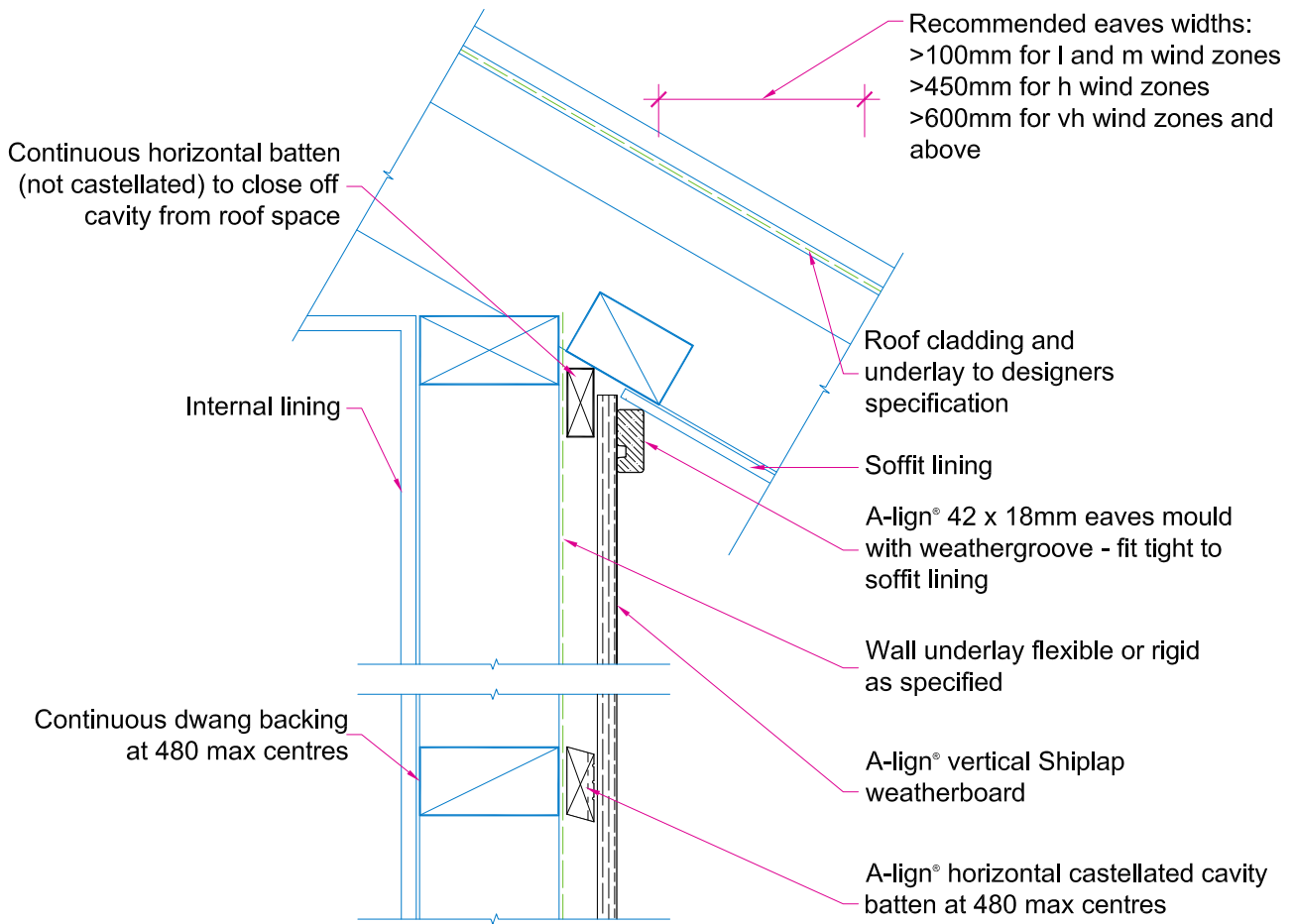
**Figure 9.01** Cavity fixed – base of wall – concrete floor



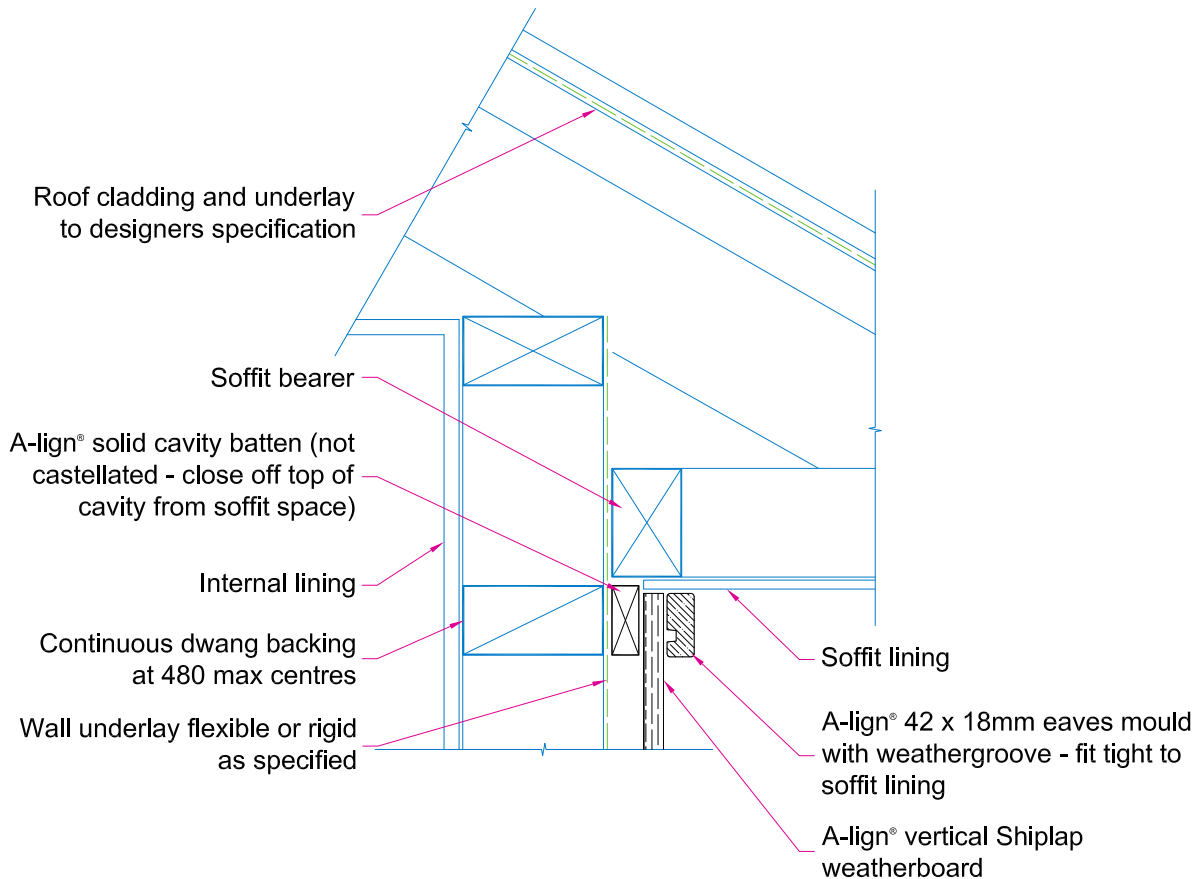
**Figure 9.02** Cavity fixed – base of wall – timber floor



**Figure 9.03** Cavity fixed – eaves – angled soffit

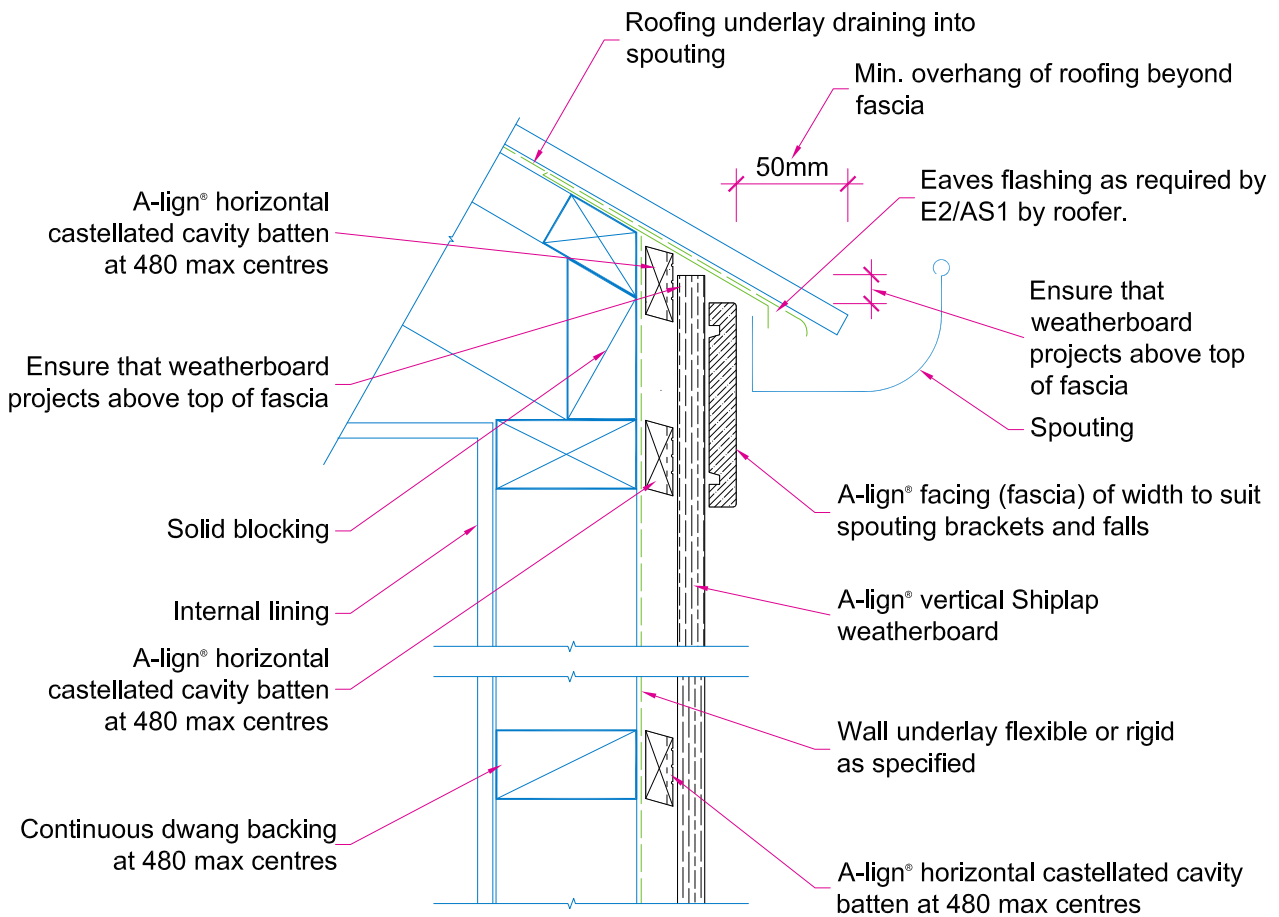


**Figure 9.04** Cavity fixed – eaves – flat soffit

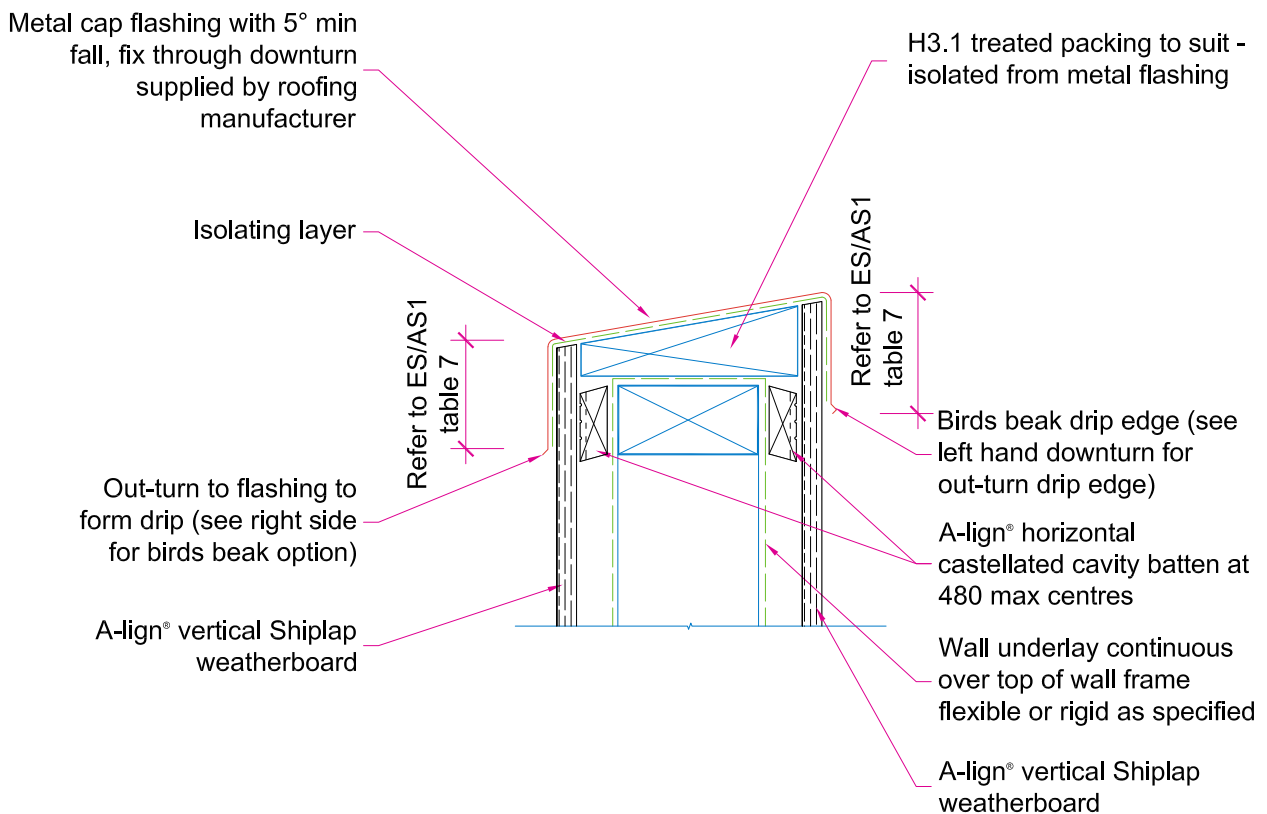




**Figure 9.05** Cavity fixed – eaves – no soffit

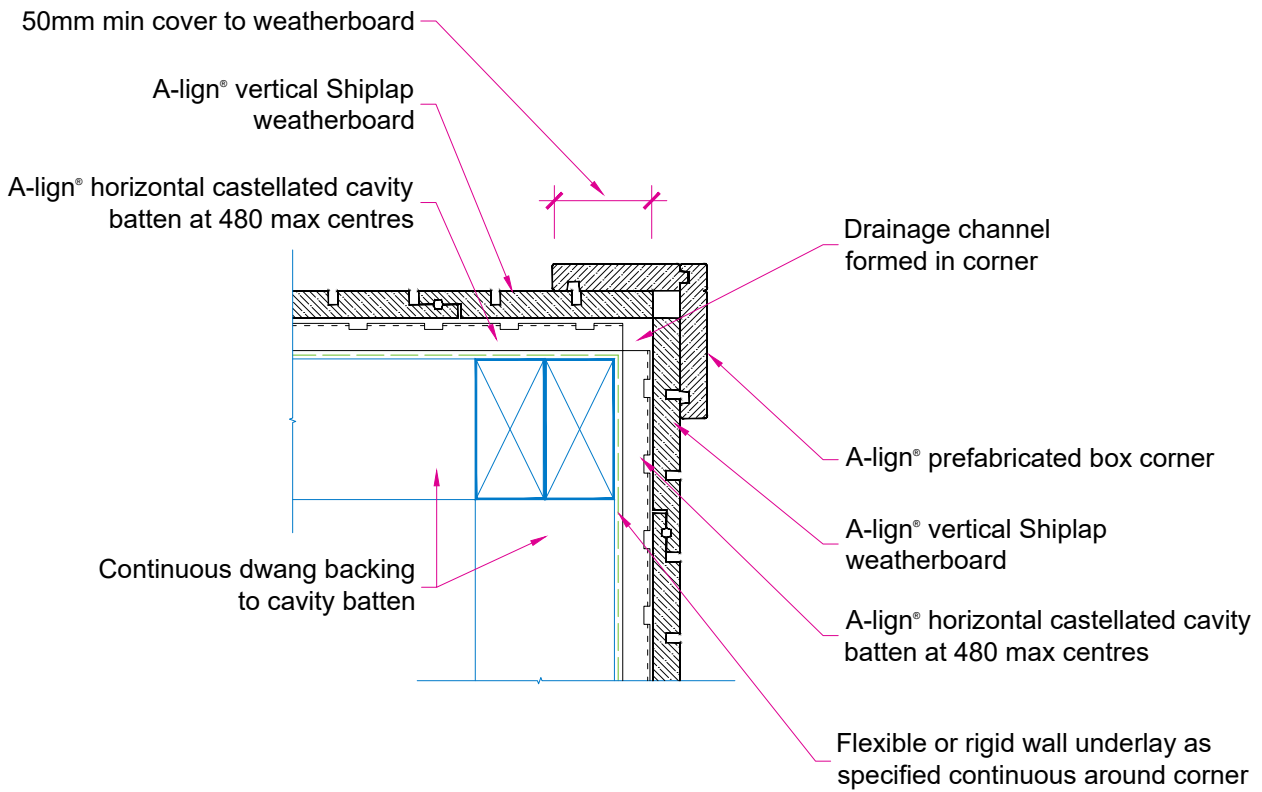


**Figure 9.06** Cavity fixed – parapet – cap

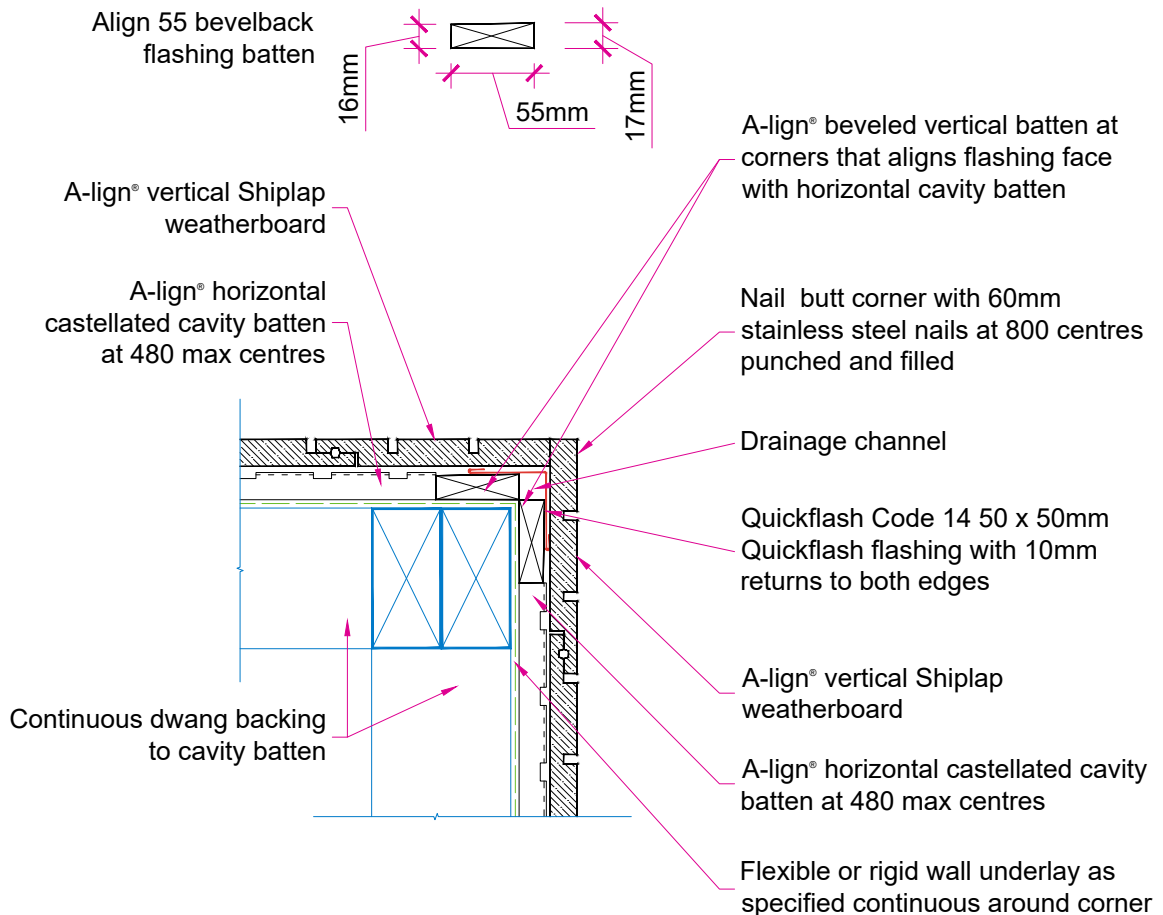


Note: For additional flashing installation requirements refer E2/AS1  
Install flashing tape and saddle flashing on junction with full height wall

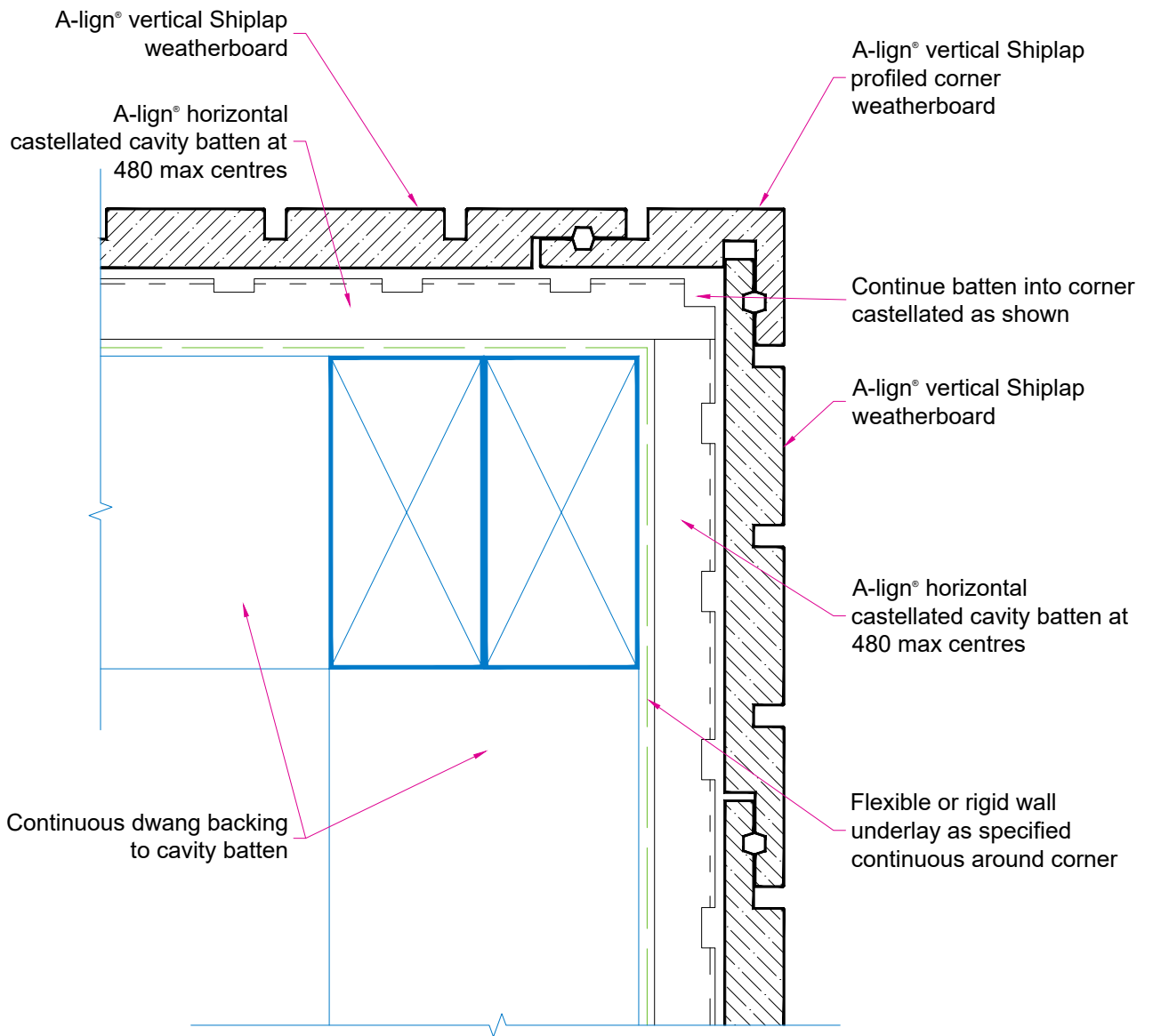
**Figure 9.07** Cavity fixed – external corner – pre-fabricated box



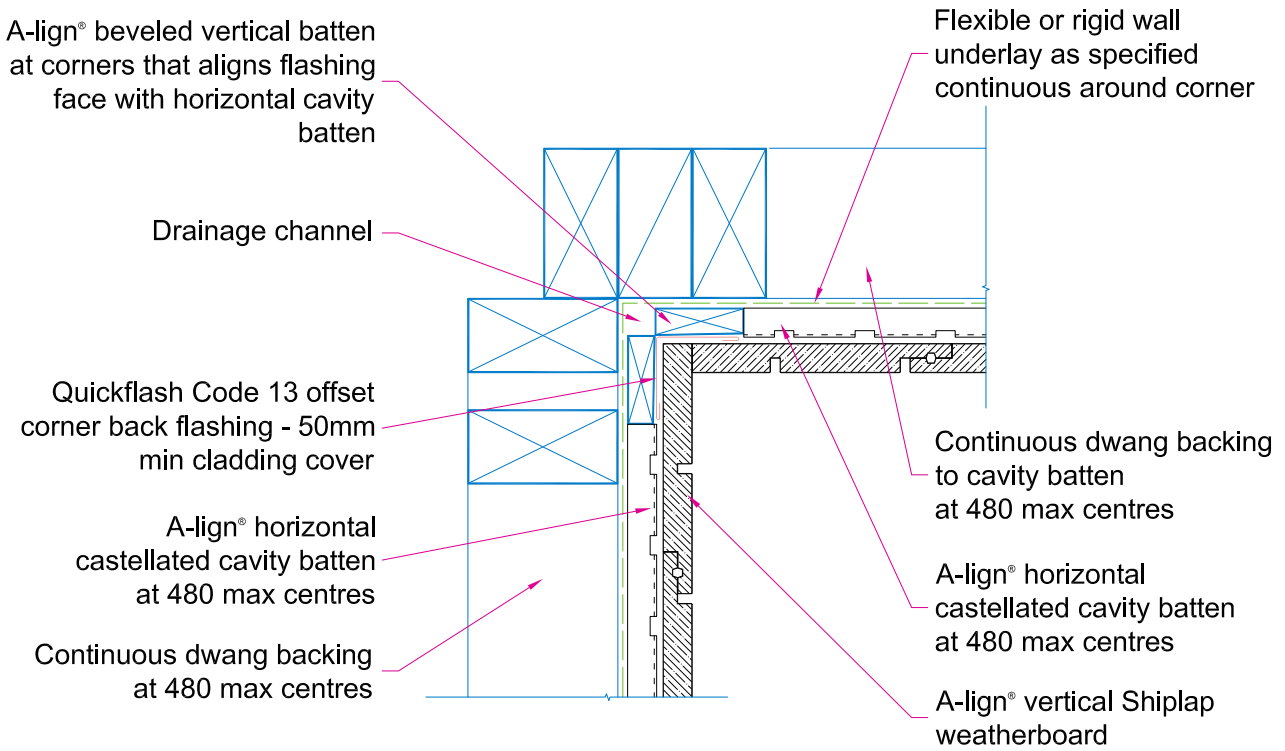
**Figure 9.08** Cavity fixed – external corner – butt



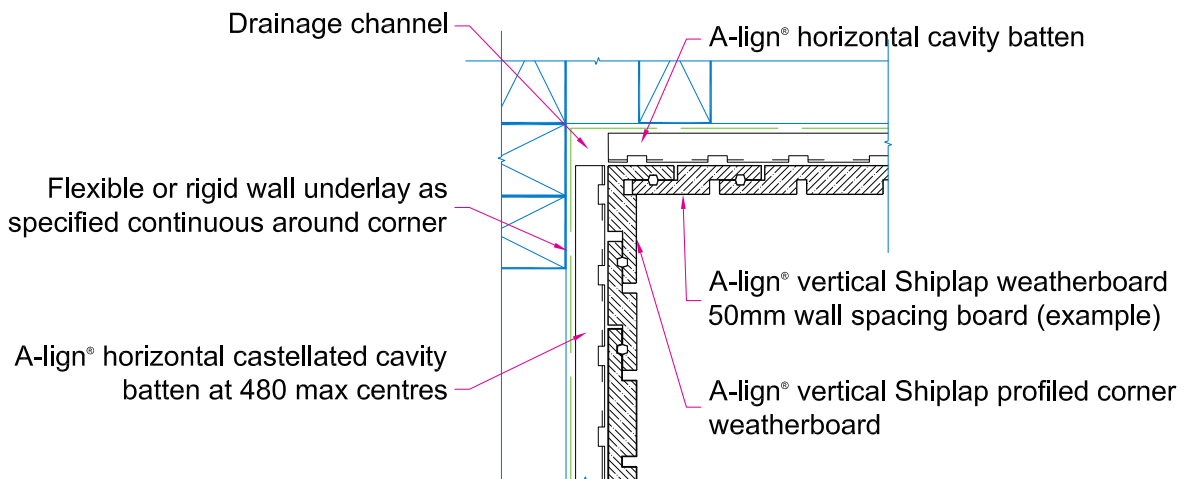
**Figure 9.08a** Cavity fixed – external corner – profiled corner weatherboard



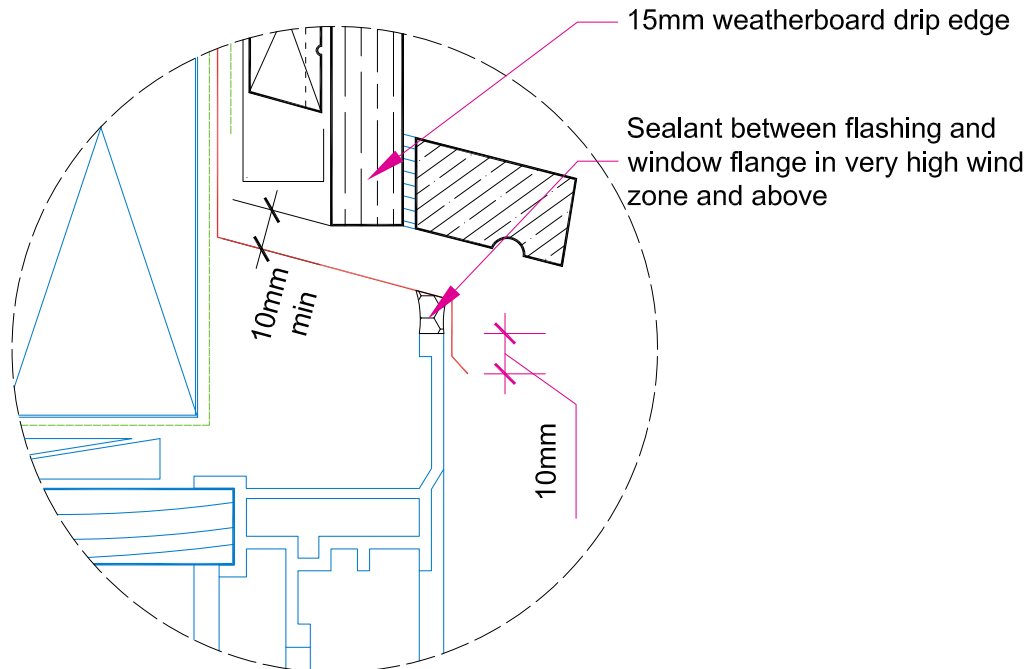
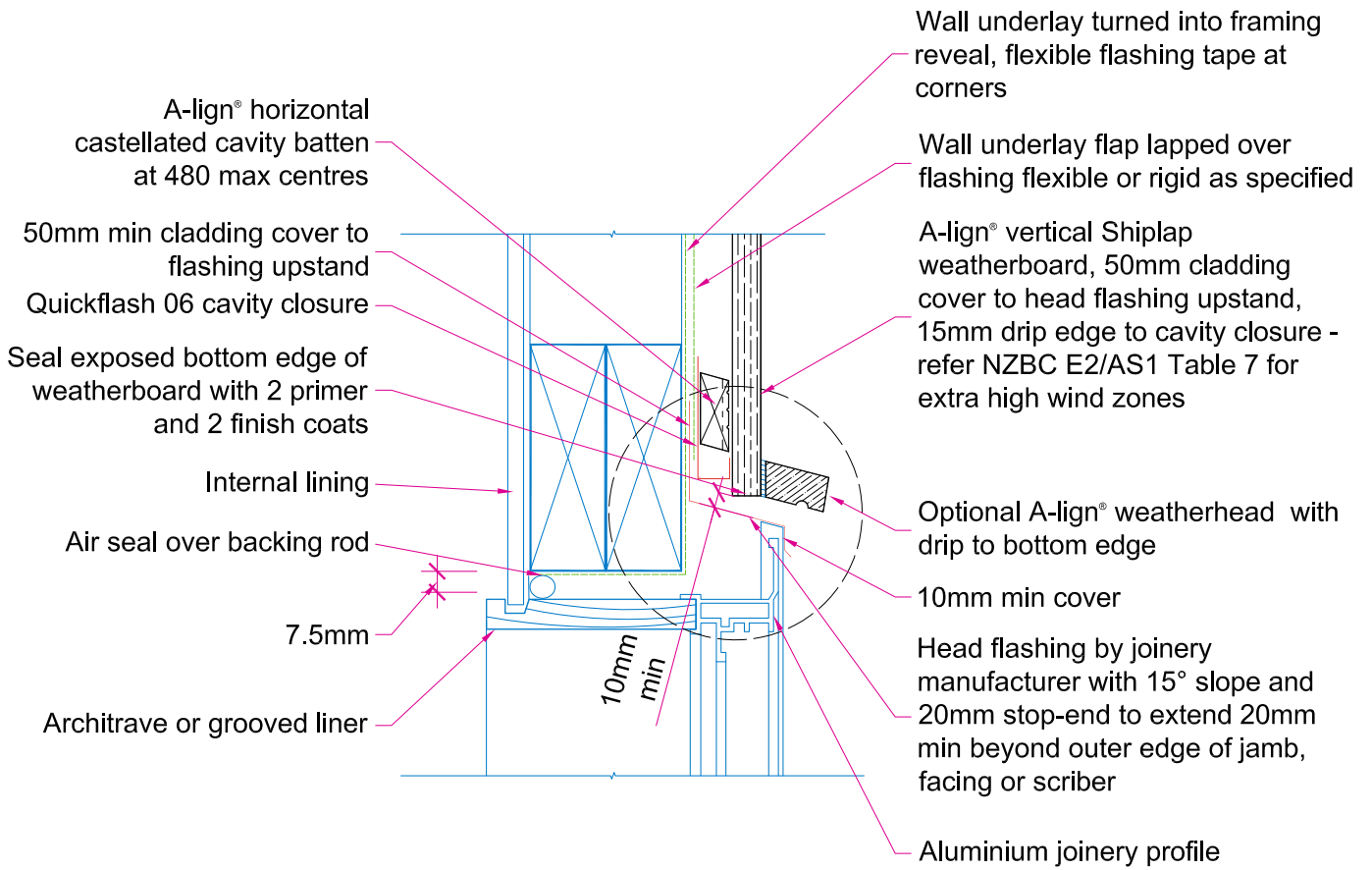
**Figure 9.09** Cavity fixed – internal corner – butt



**Figure 9.10a** Cavity fixed – internal corner – profiled corner mould

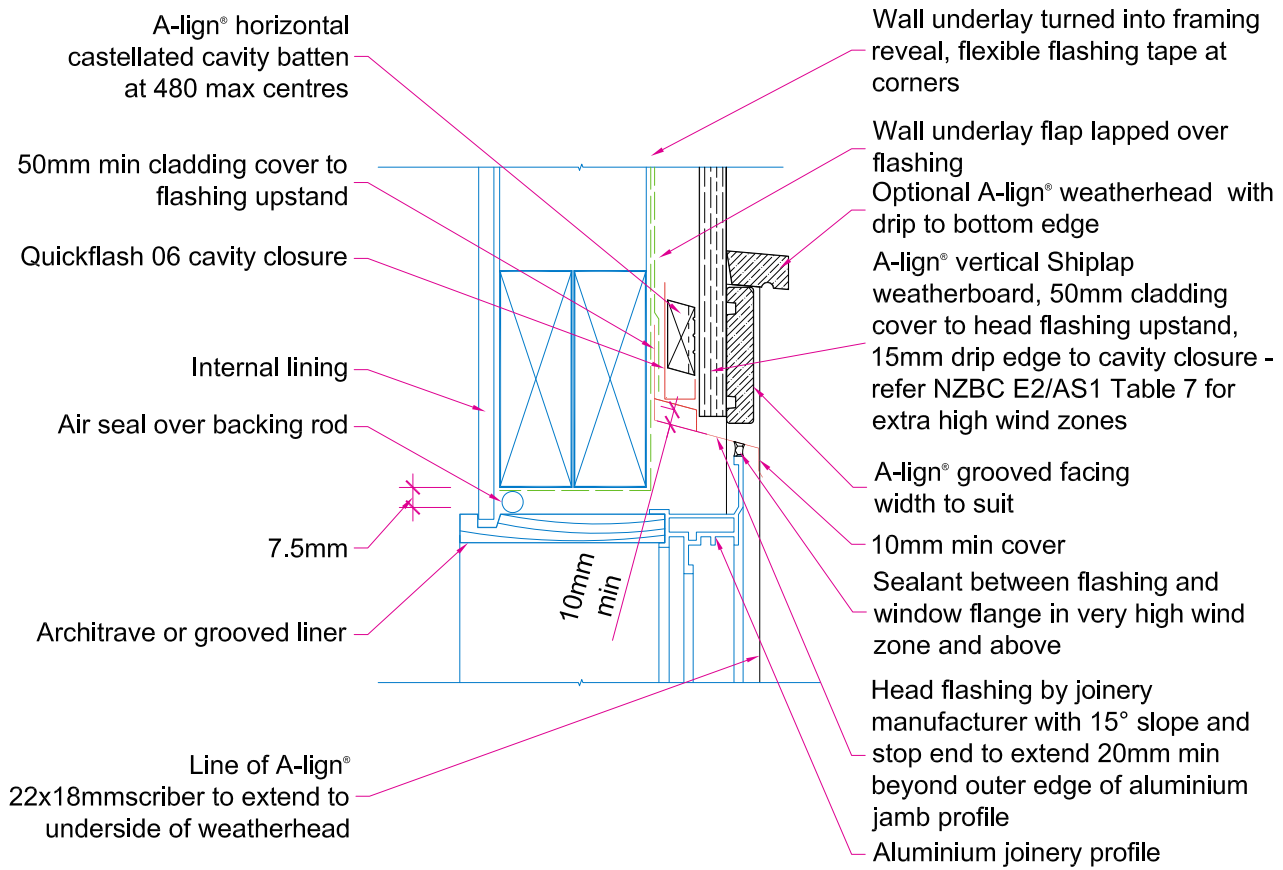


**Figure 9.11** Cavity fixed – aluminium window – head

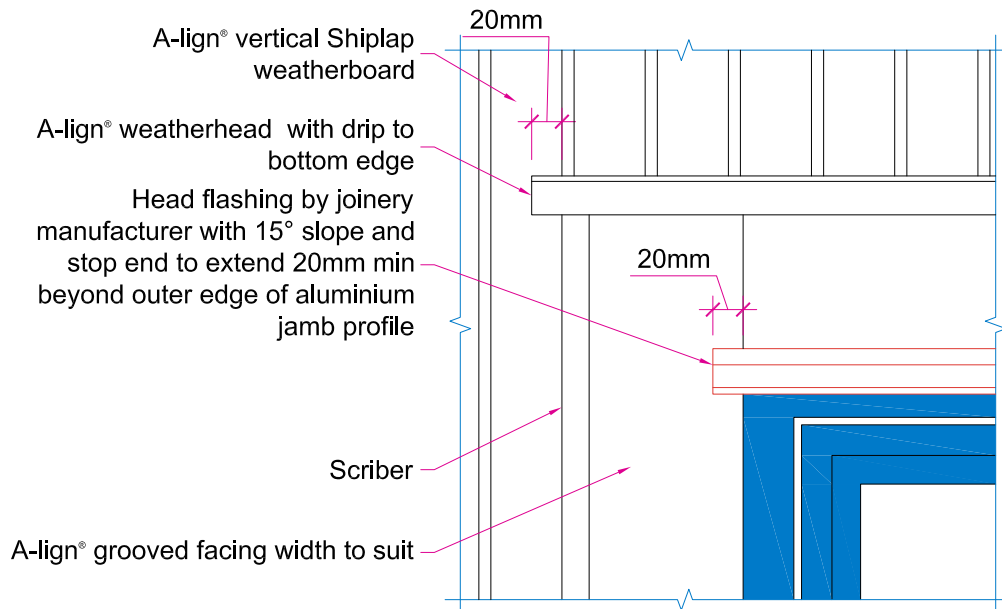




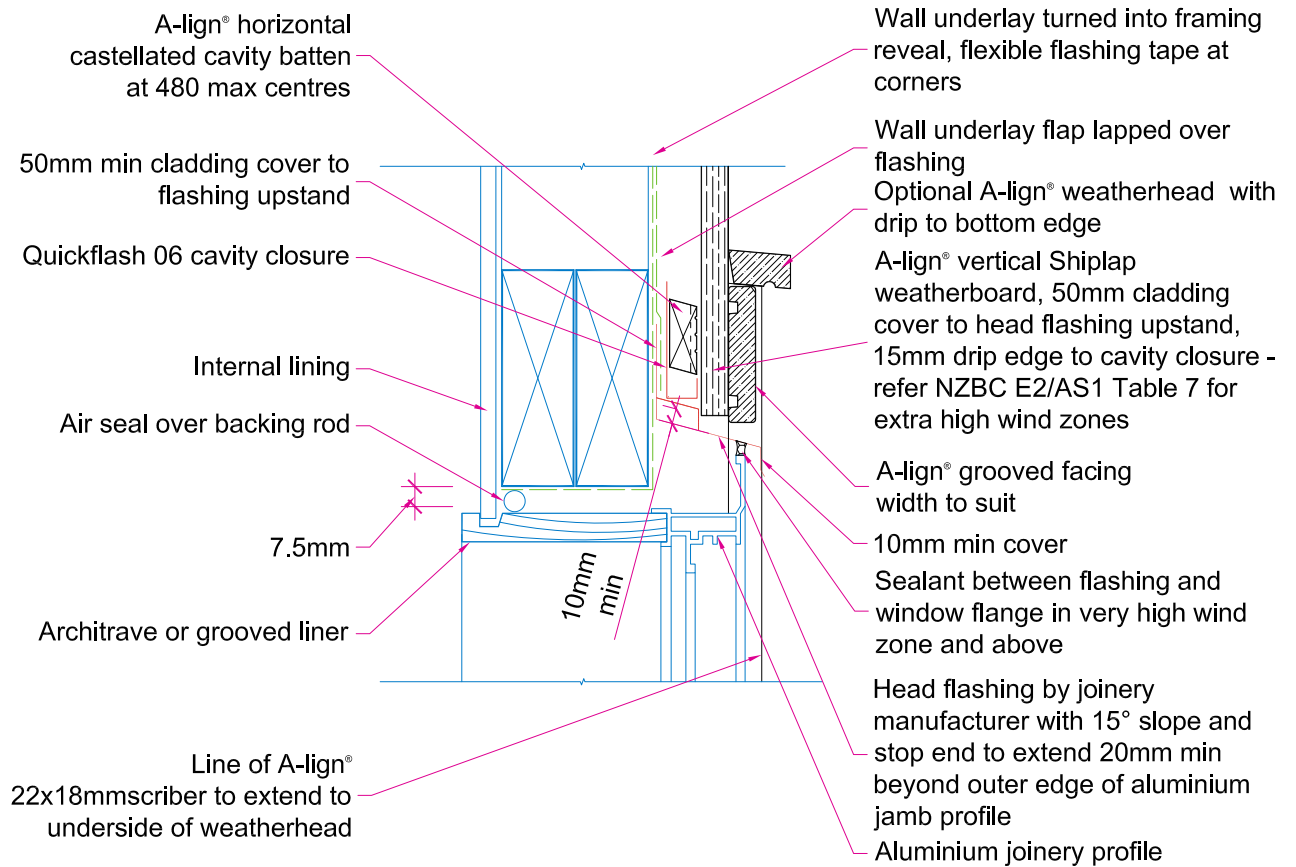
**Figure 9.11a** Cavity fixed – window head facing – option A



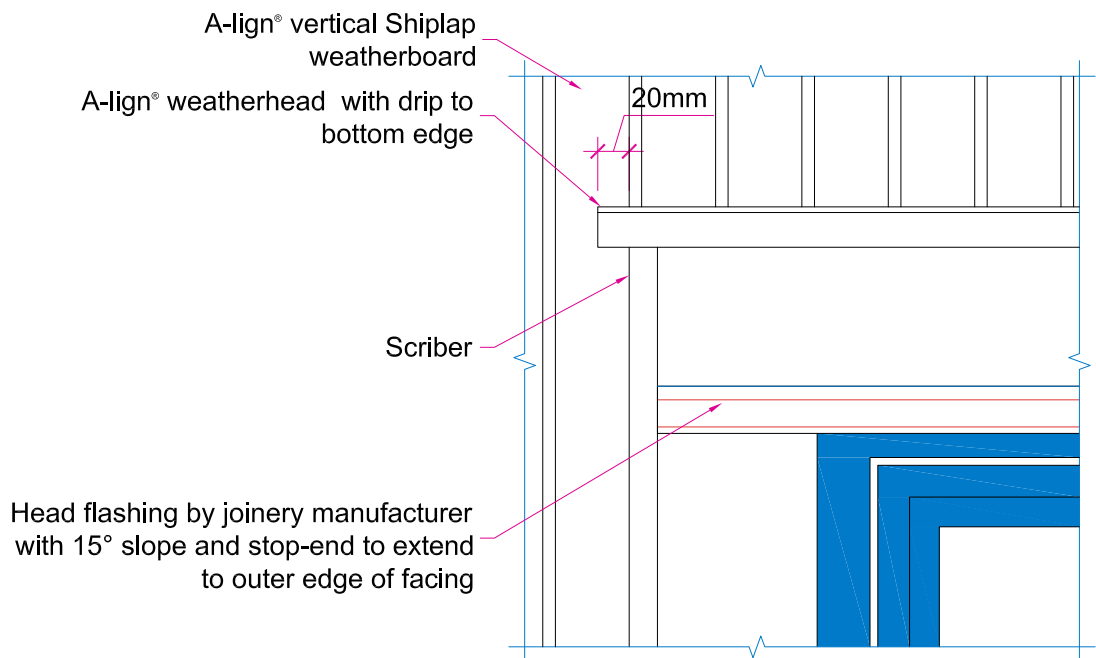
Elevation



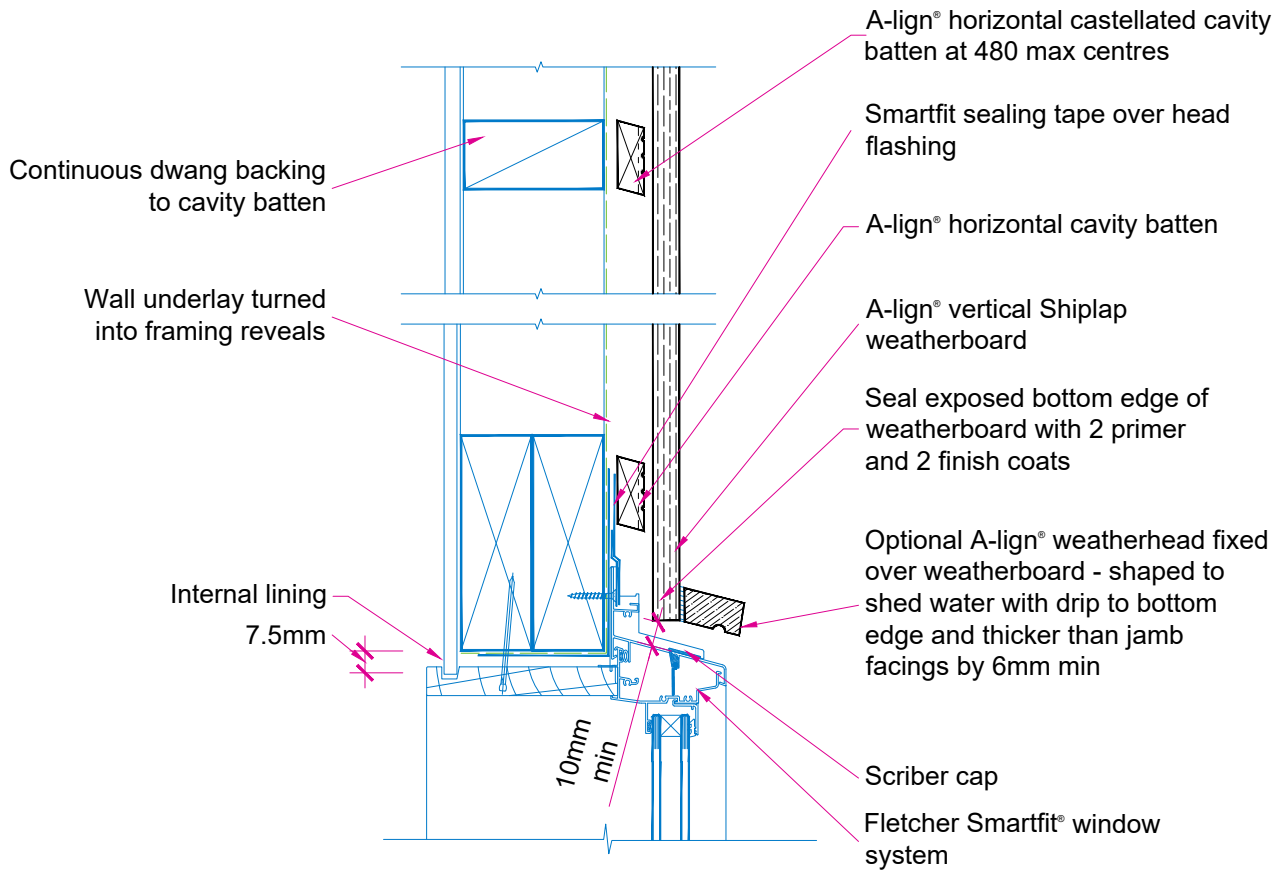
**Figure 9.11b** Cavity fixed - window head facing - option B



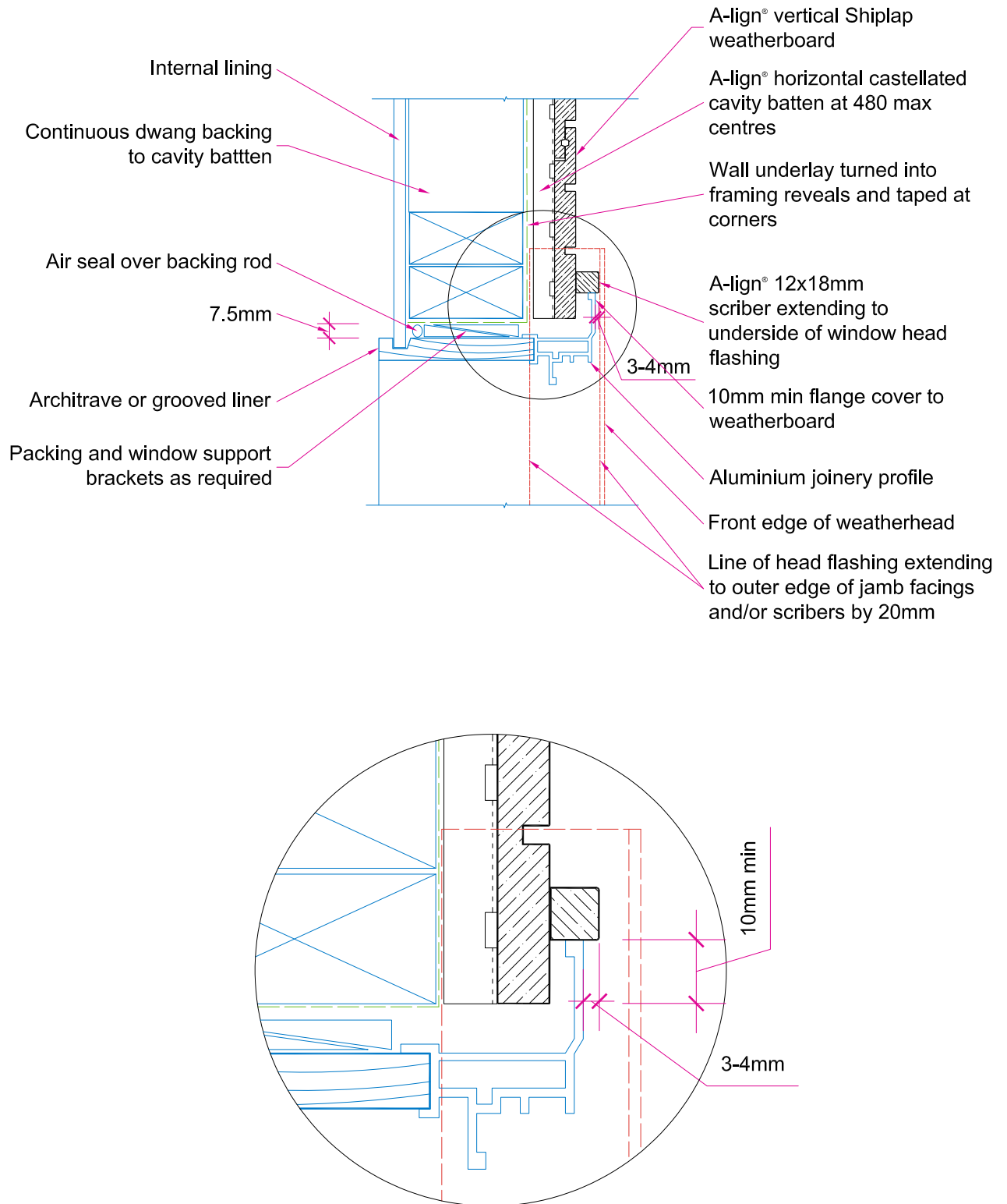
Elevation



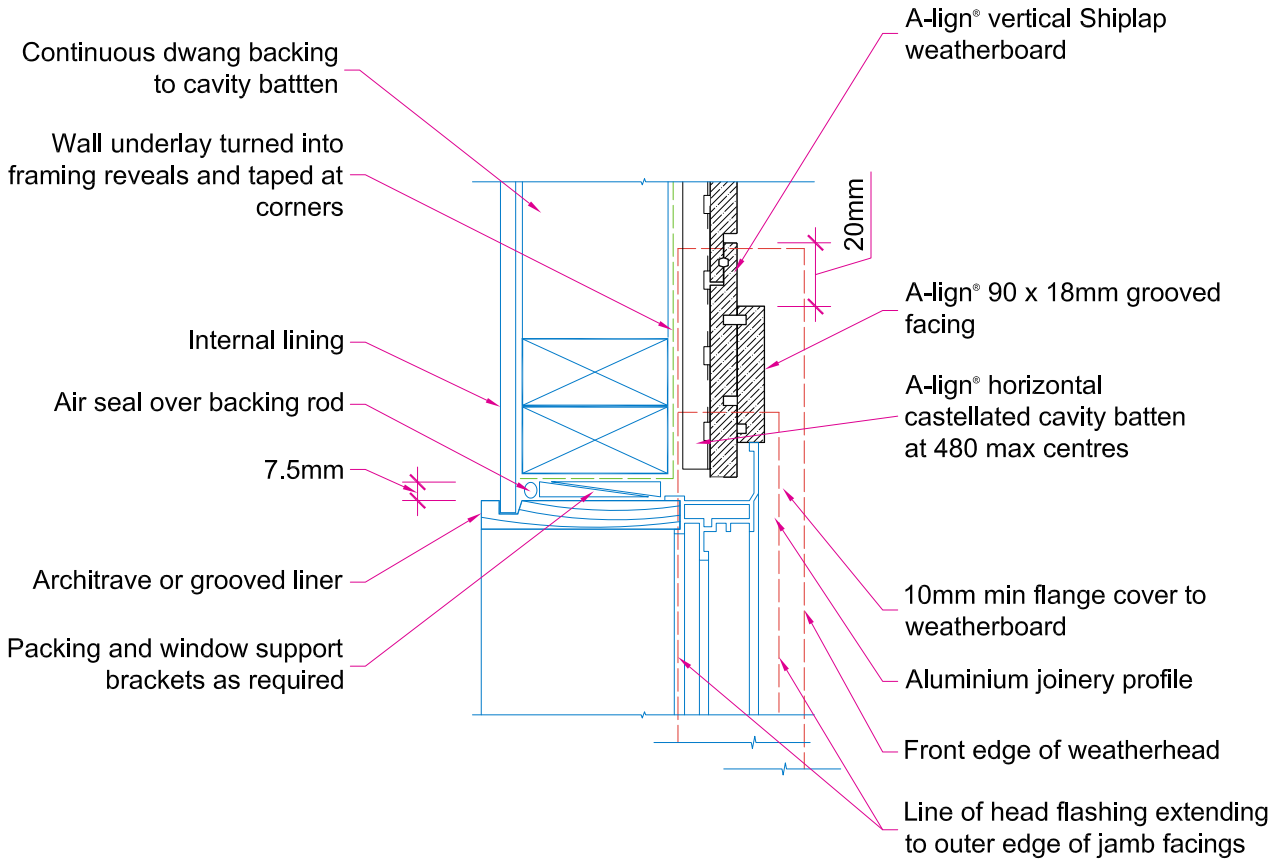
**Figure 9.11c** cavity fixed - aluminium smart fit window - head



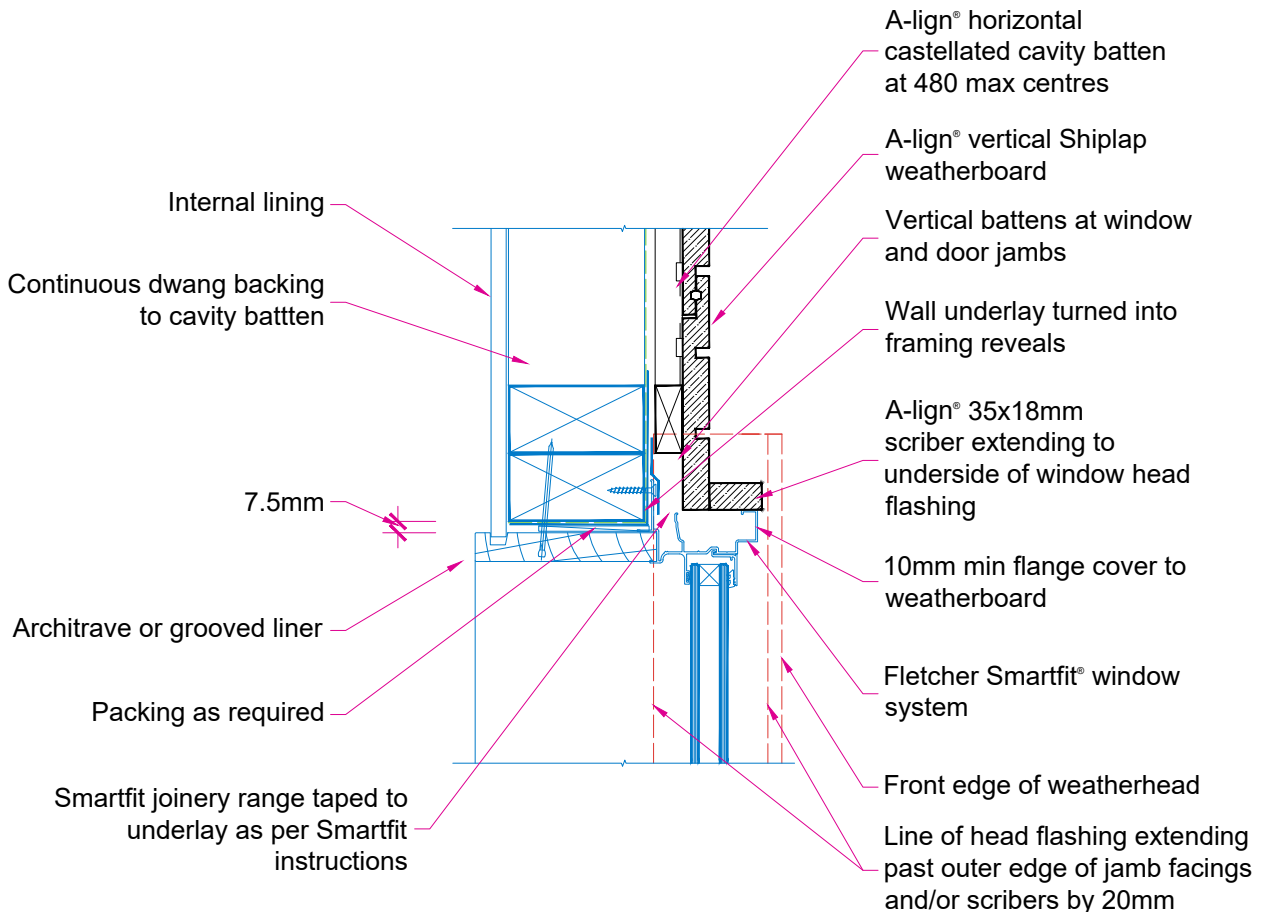
**Figure 9.12** Cavity fixed – aluminium window – jamb



**Figure 9.12a** Cavity fixed – aluminium window – jamb

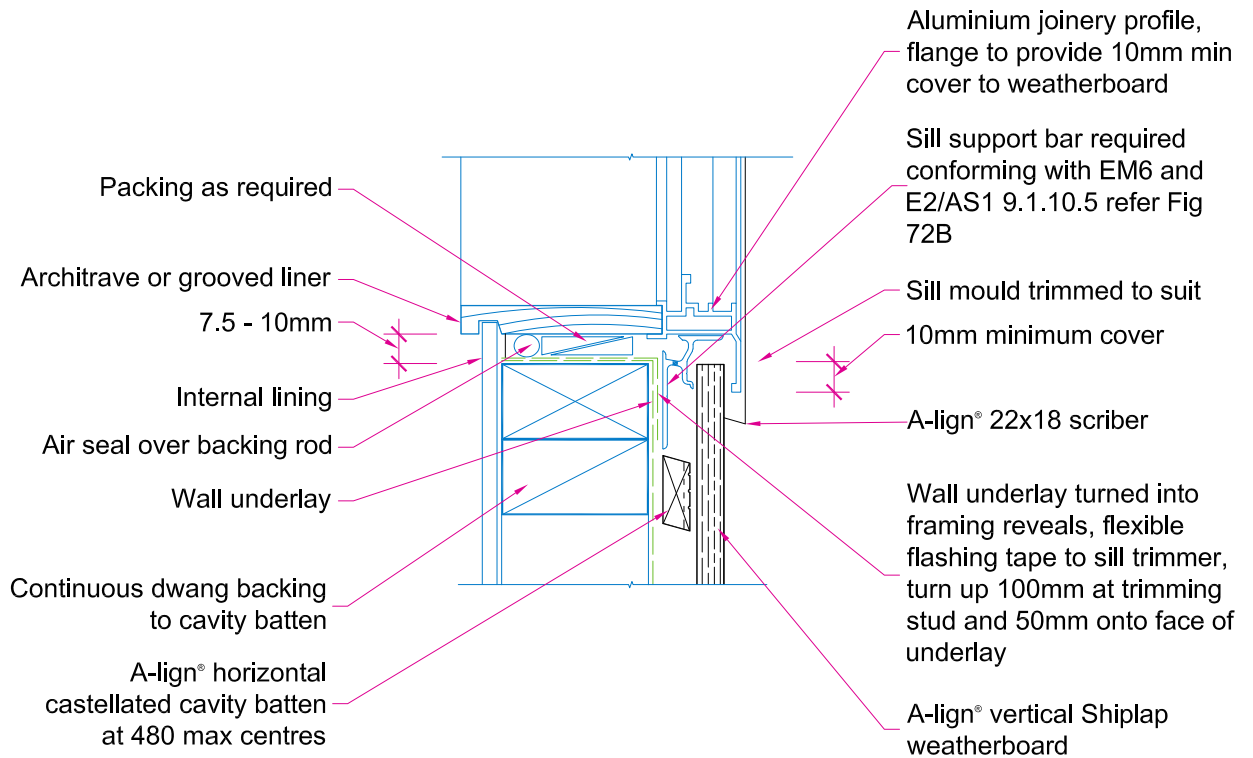


**Figure 9.12b** Cavity fixed – aluminium smart fit window - jamb

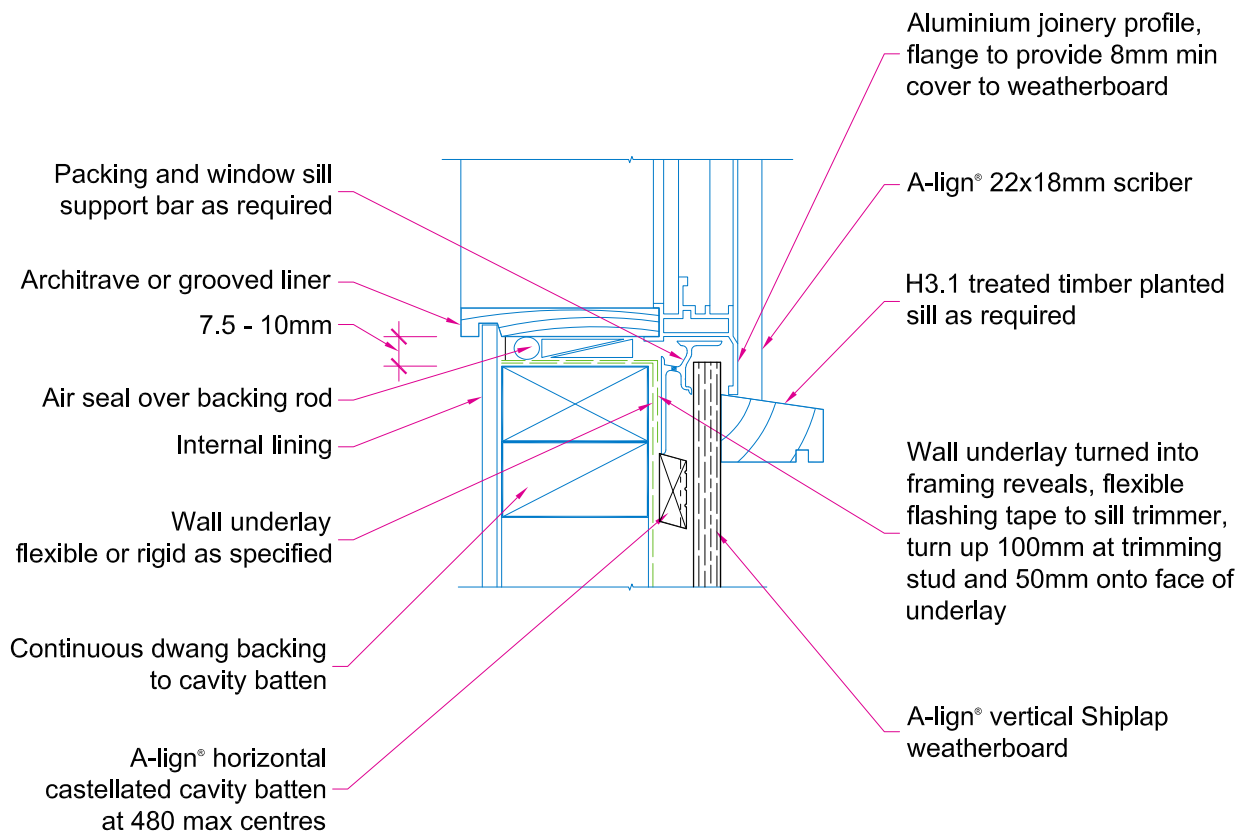




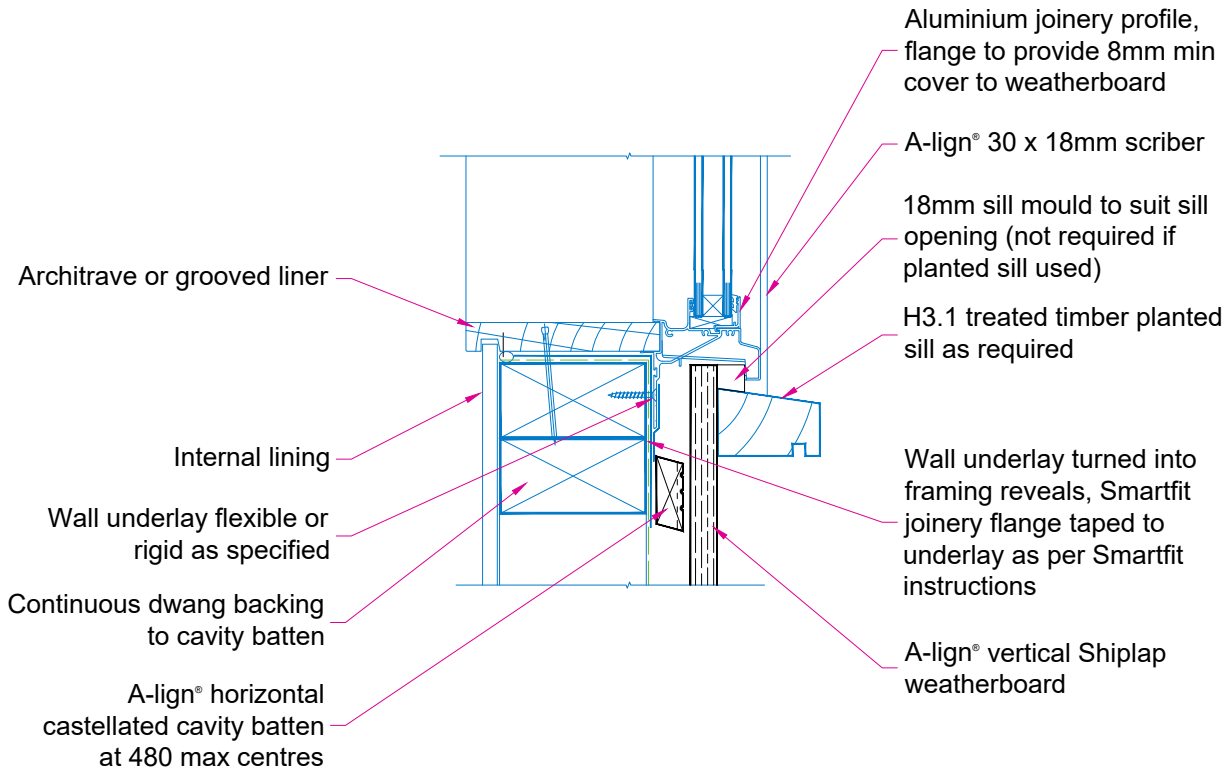
**Figure 9.13** Cavity fixed – aluminium window – sill



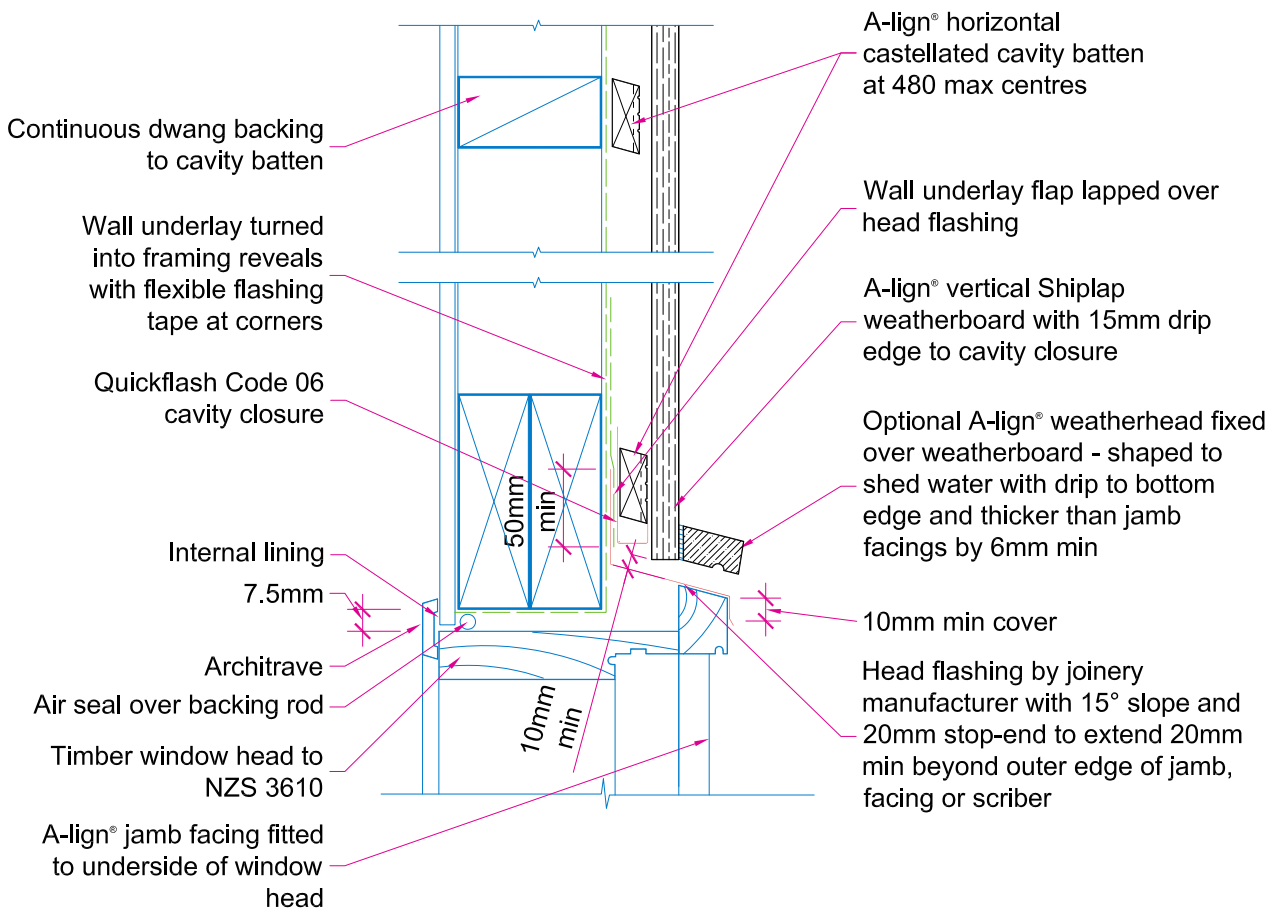
**Figure 9.13a** Cavity fixed – aluminium window – sill



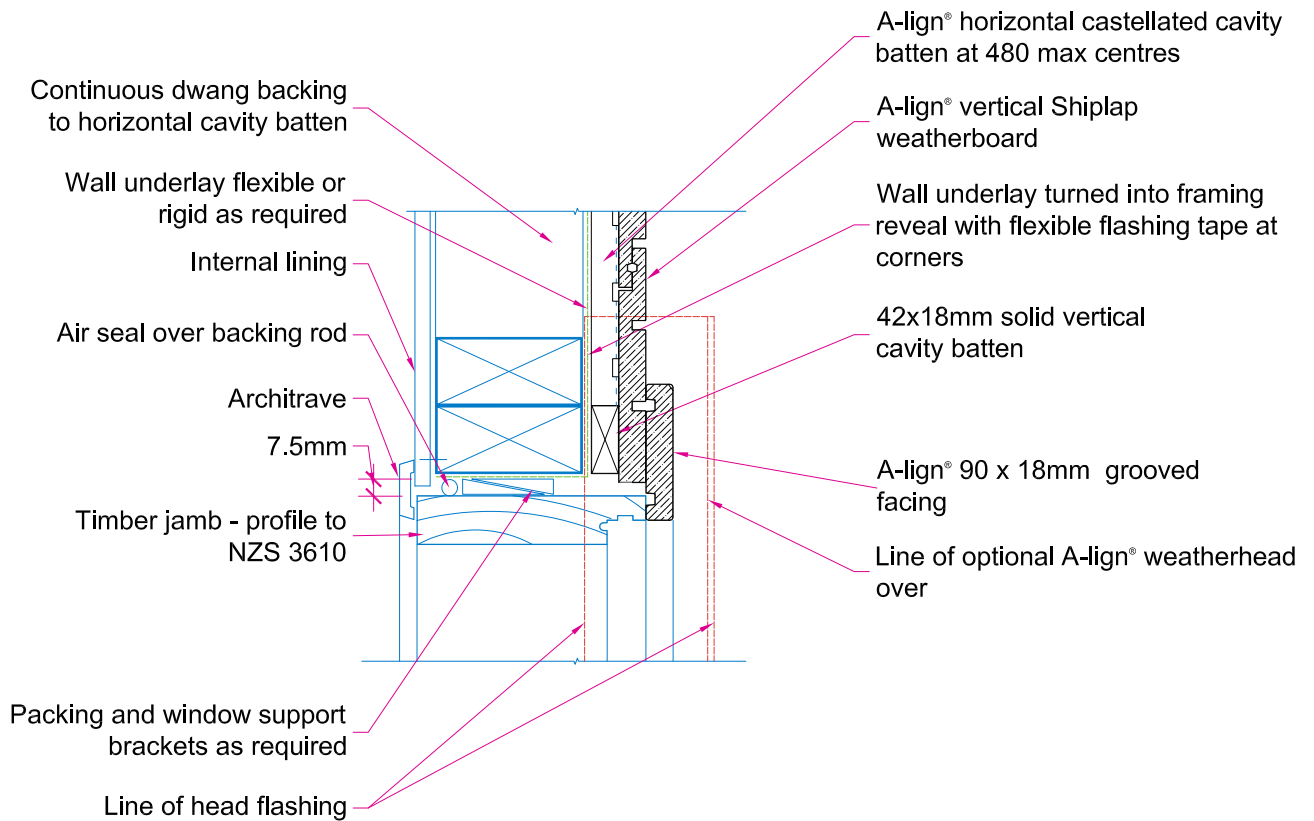
**Figure 9.13b** Cavity fixed – aluminium smart fit window – sill



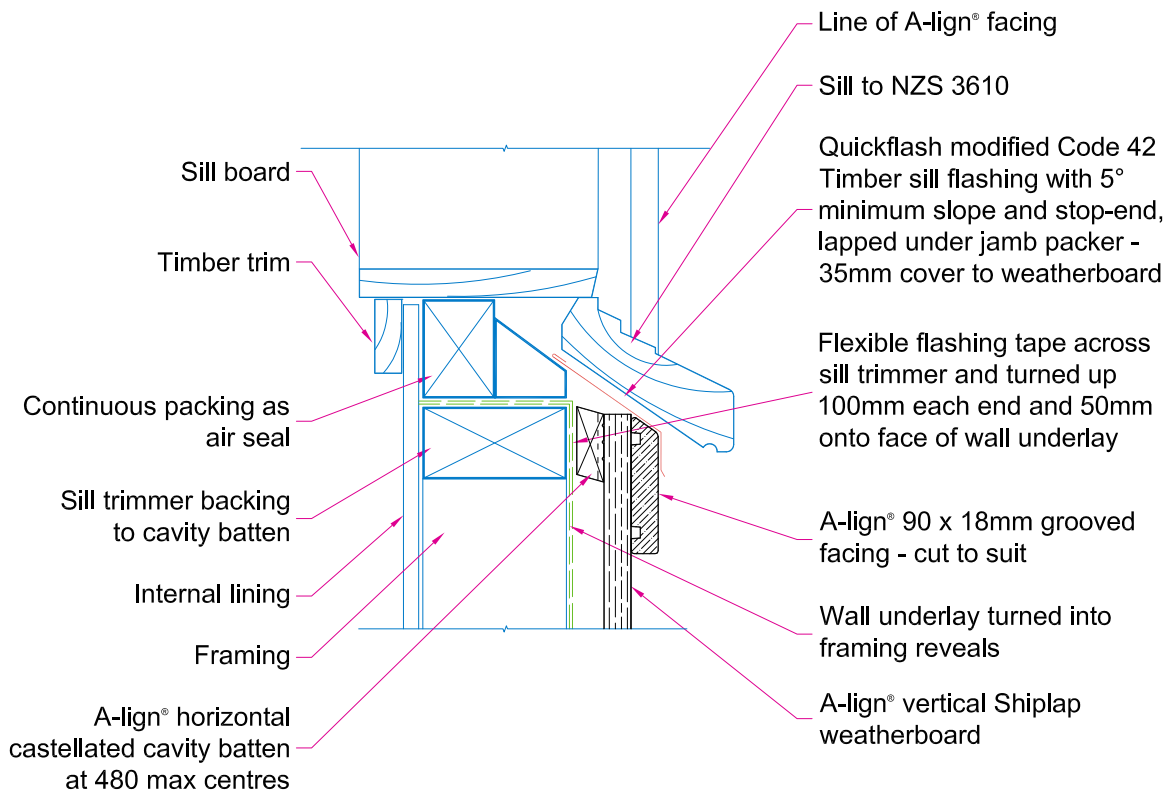
**Figure 9.14** Cavity fixed – timber window – head



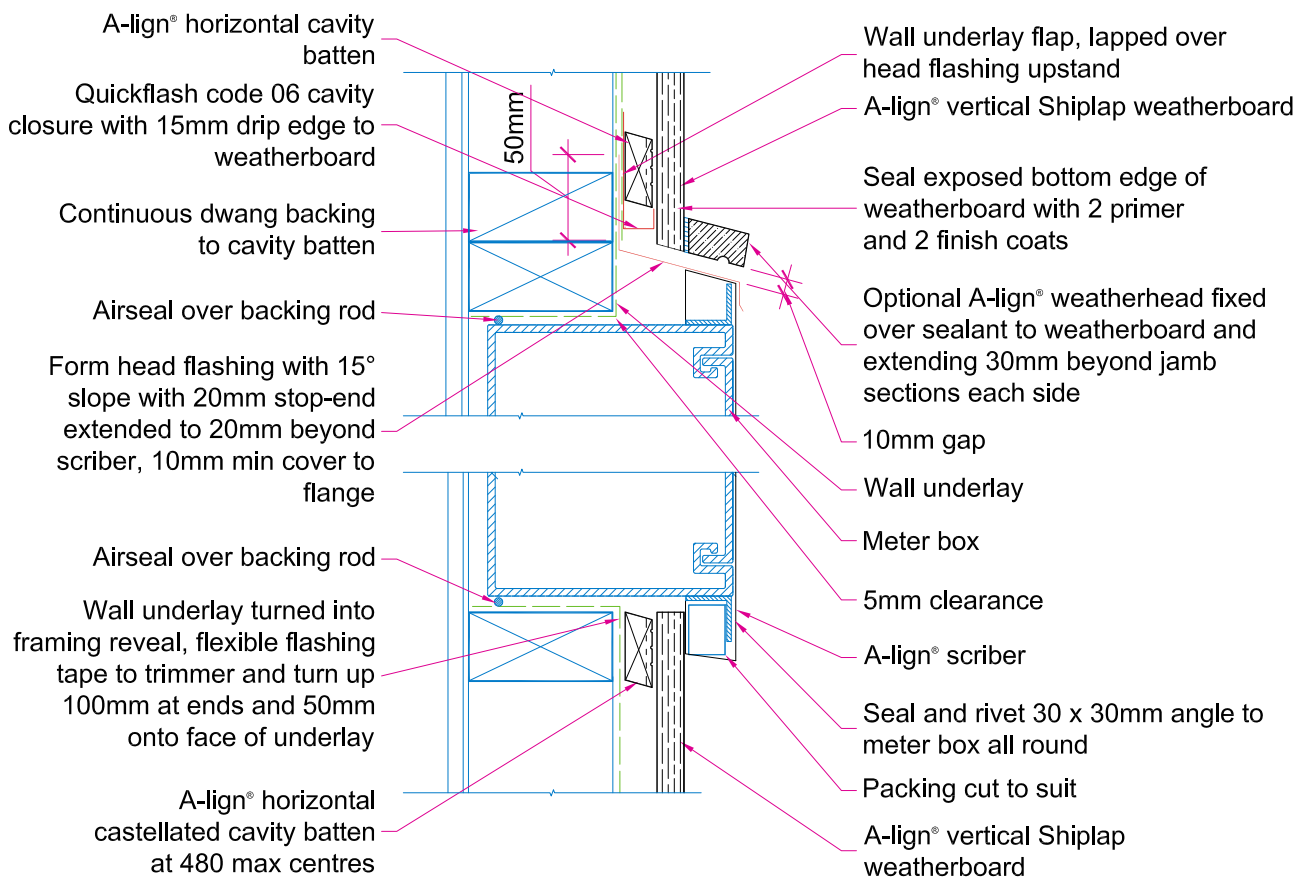
**Figure 9.15** Cavity fixed – timber window – jamb



**Figure 9.16** Cavity fixed – timber window – sill

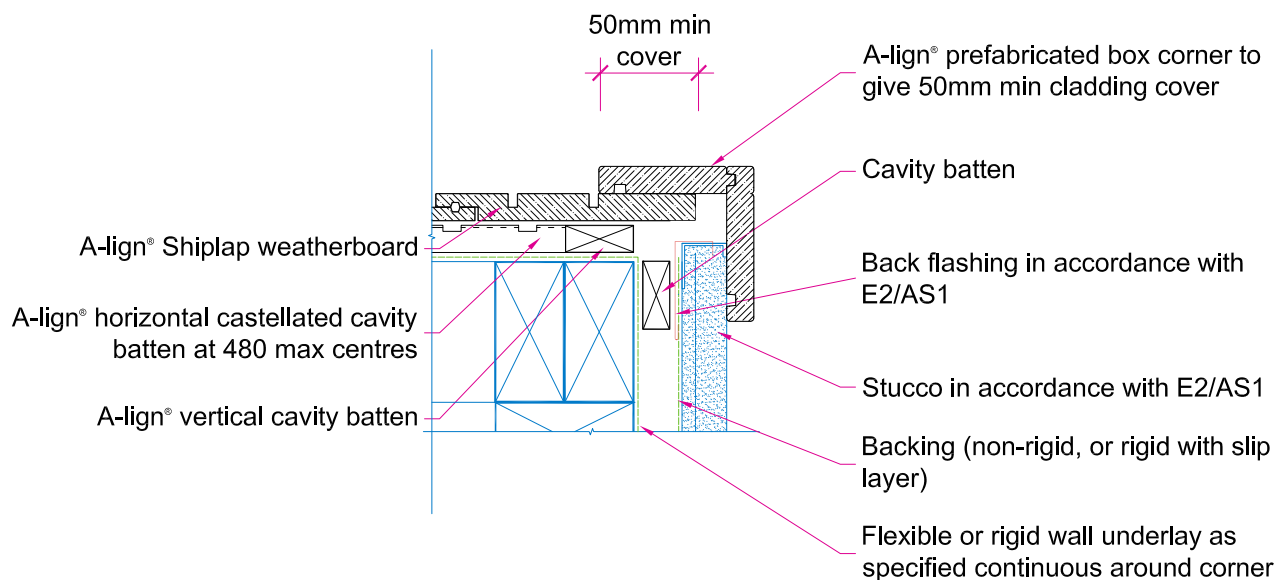


**Figure 9.17** Cavity fixed – meter box



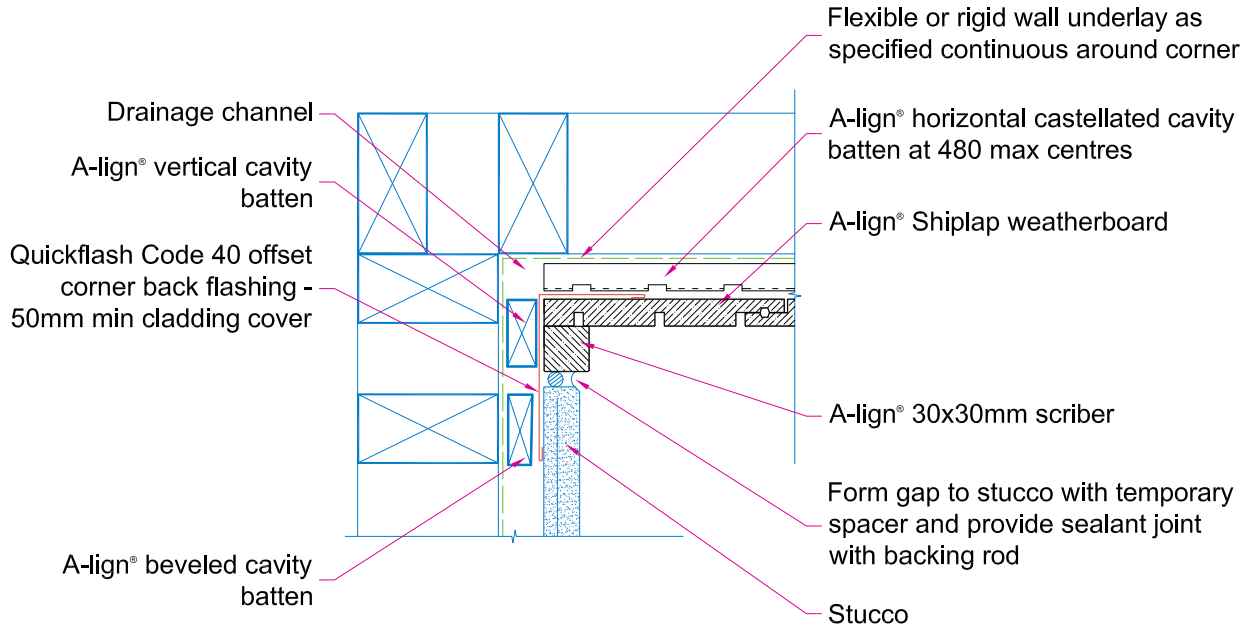
Note: Jamb detail similar to sill with angle to give cover to weatherboard with a A-lign® pre-cut scribe

**Figure 9.18** Cavity fixed – external corner – pre-fabricated box – stucco

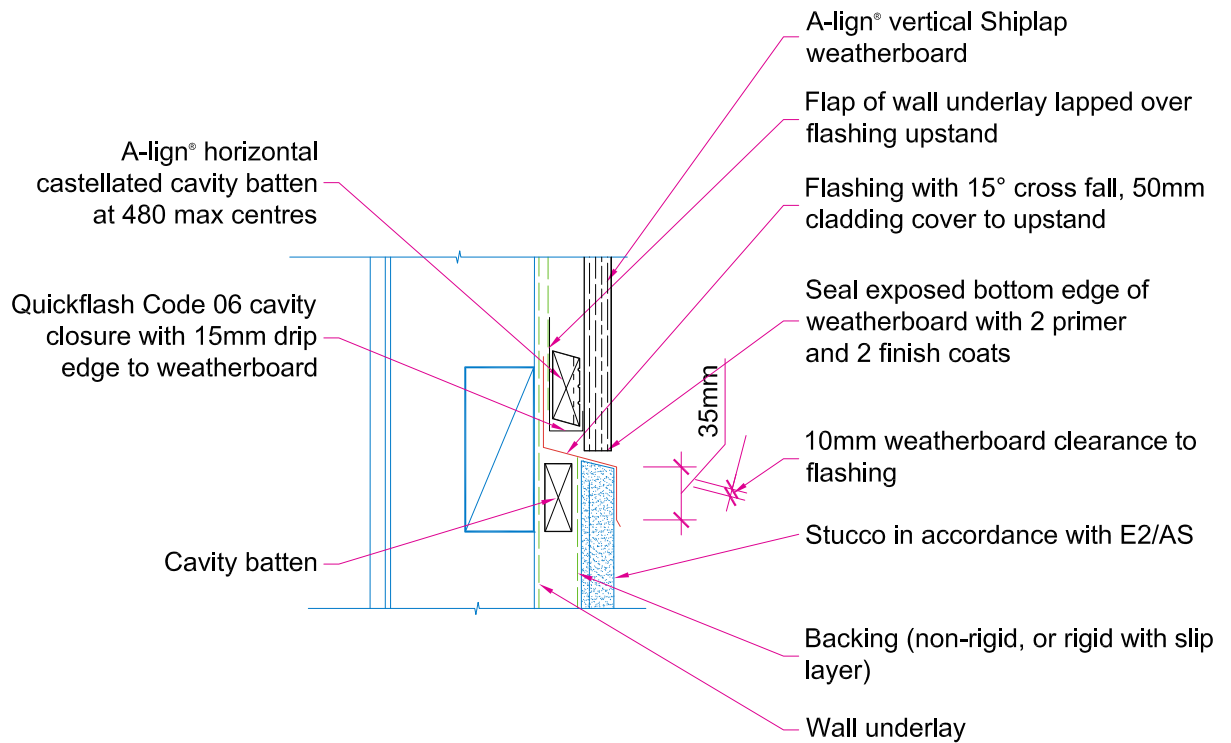


Note: Run wall underlay continuously around internal and external corners - do not joint material at corners

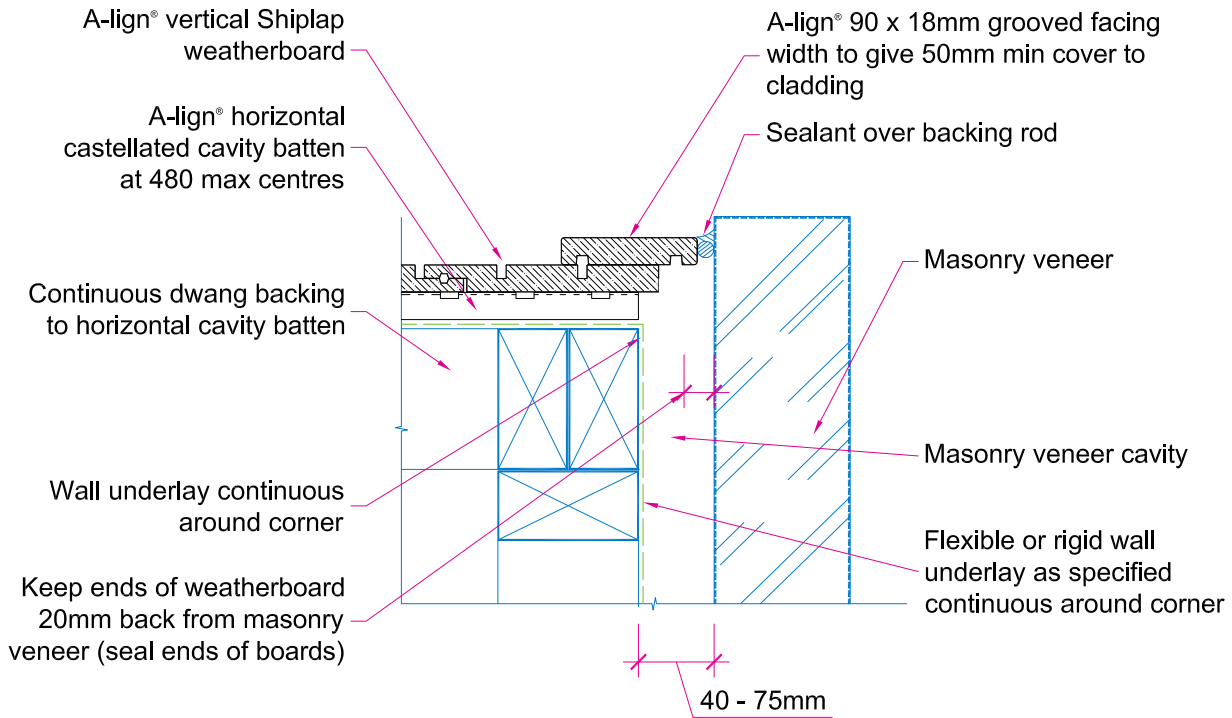
**Figure 9.19** Cavity fixed – internal corner – pre-cut scribe – stucco



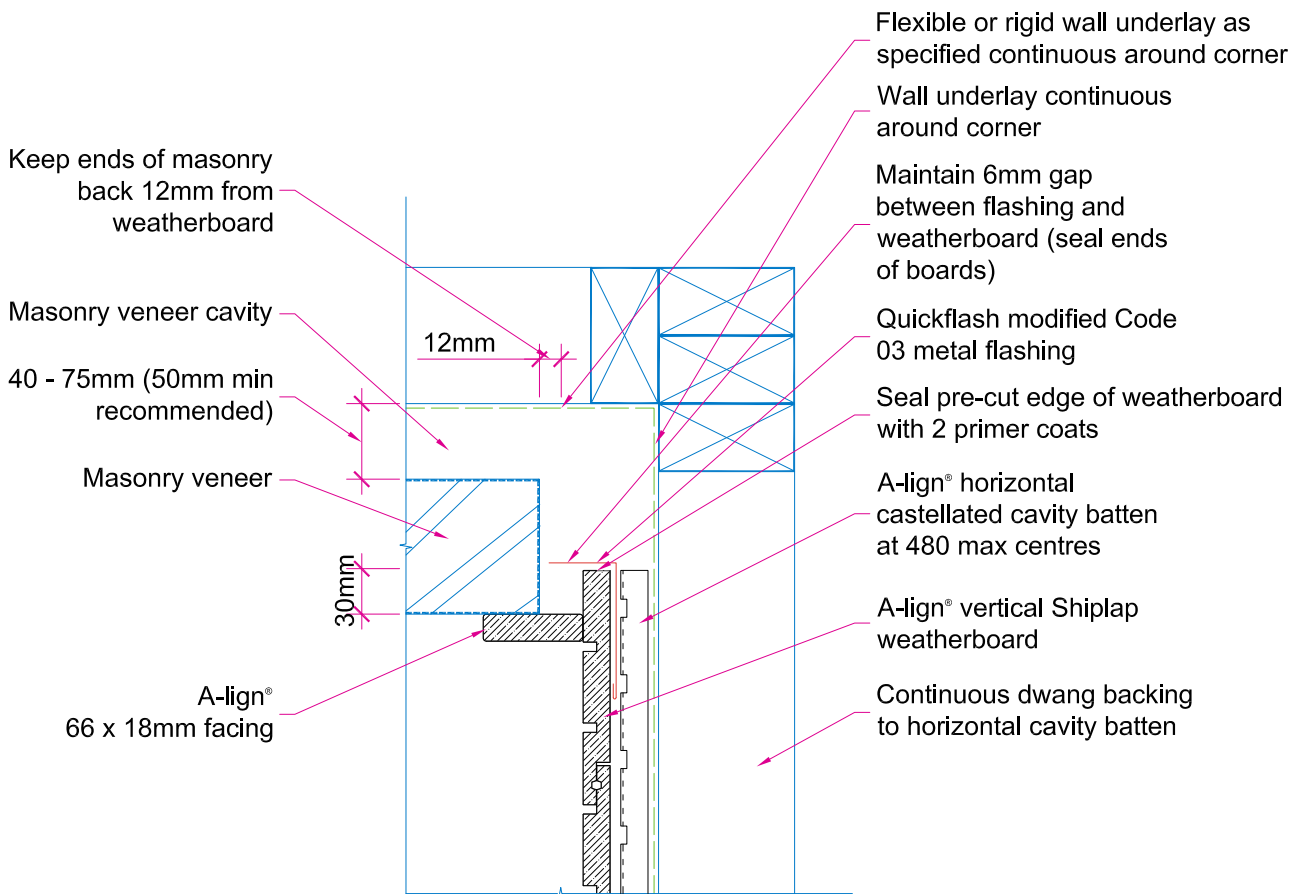
**Figure 9.20** Cavity fixed – above stucco



**Figure 9.26** Cavity fixed – external corner – masonry veneer

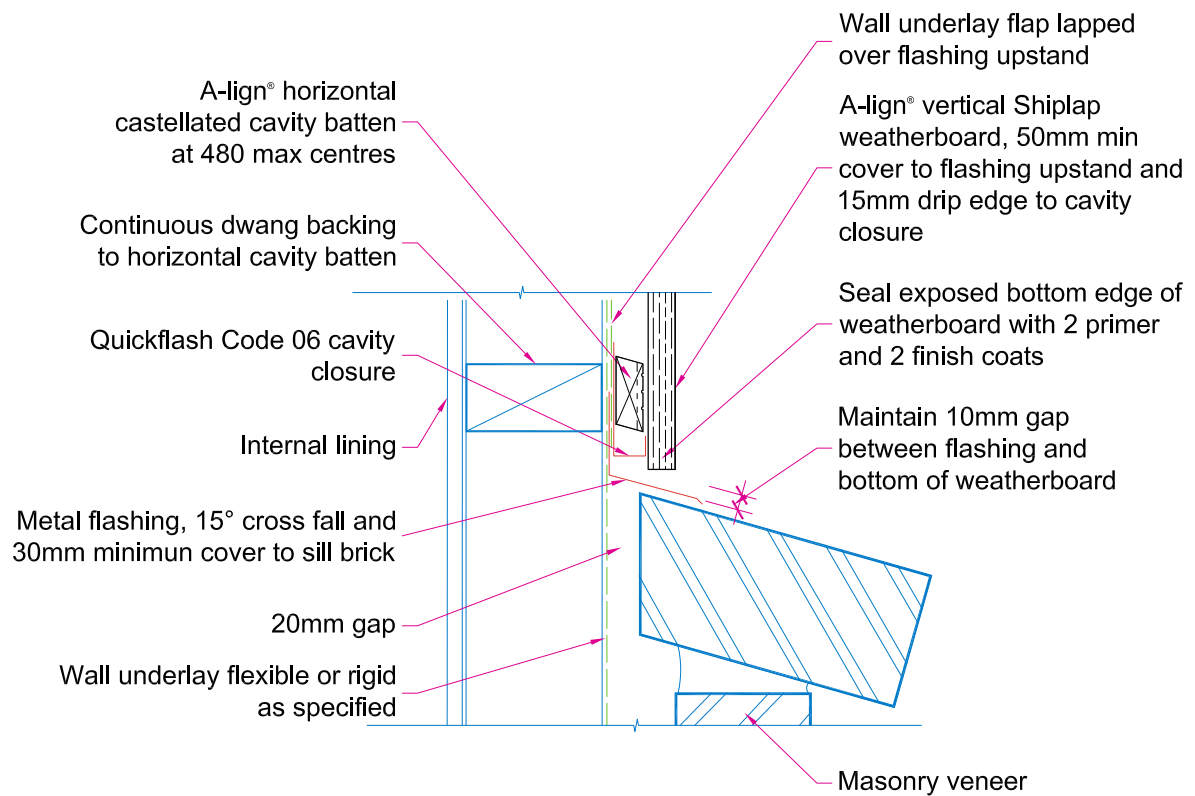


**Figure 9.27** Cavity fixed – internal corner – masonry veneer

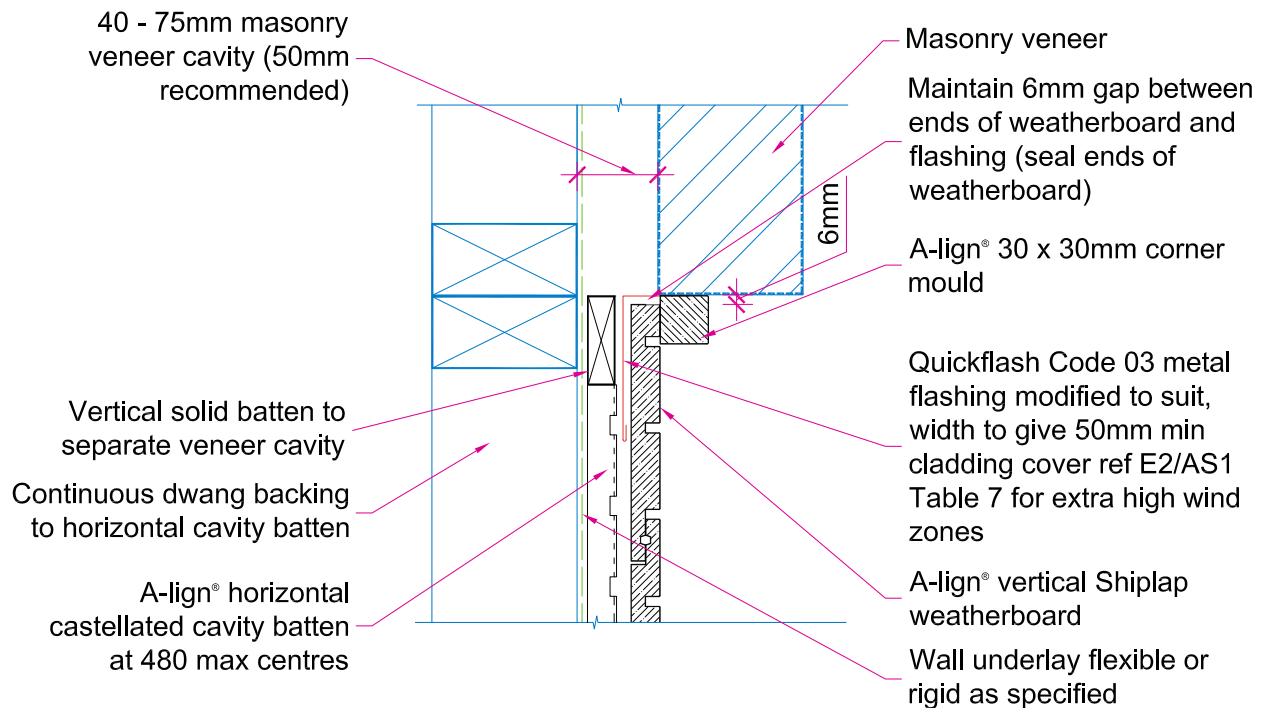




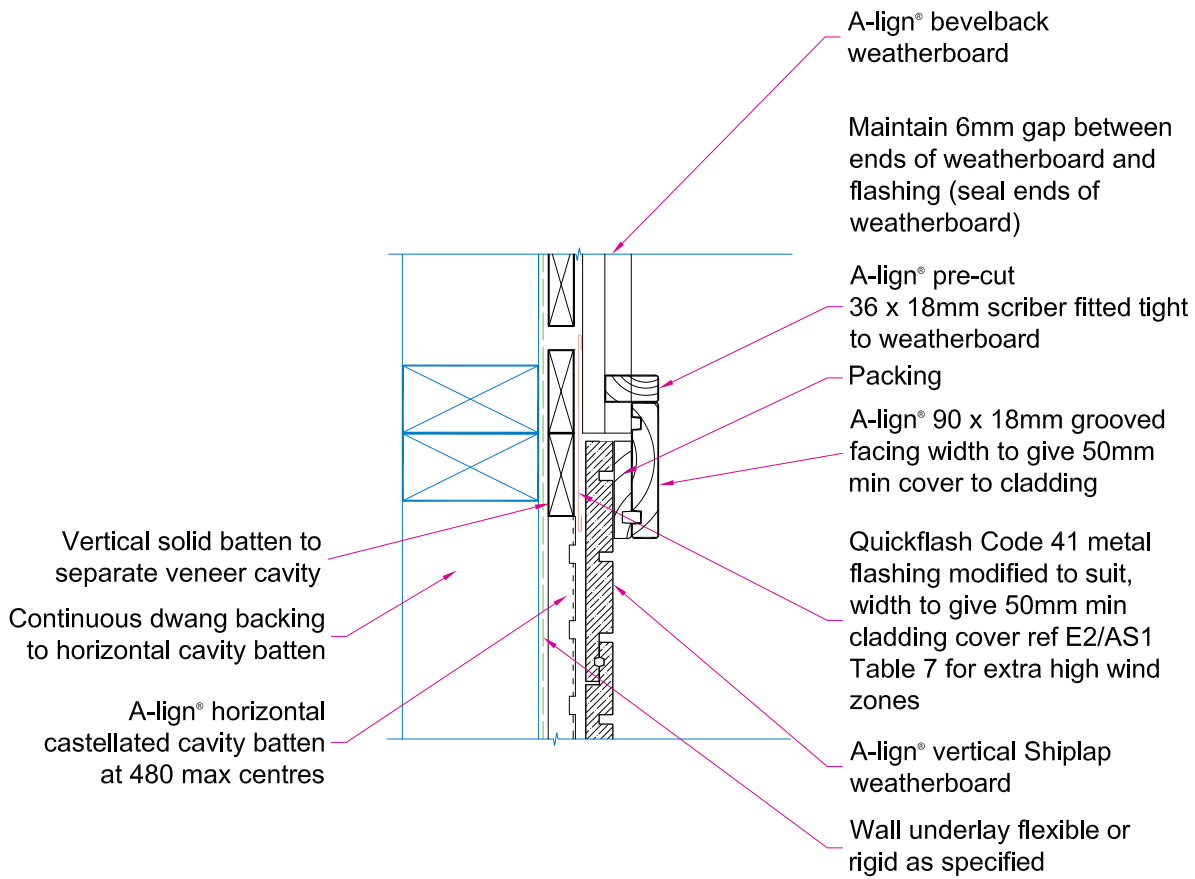
**Figure 9.28** Cavity fixed – above masonry veneer



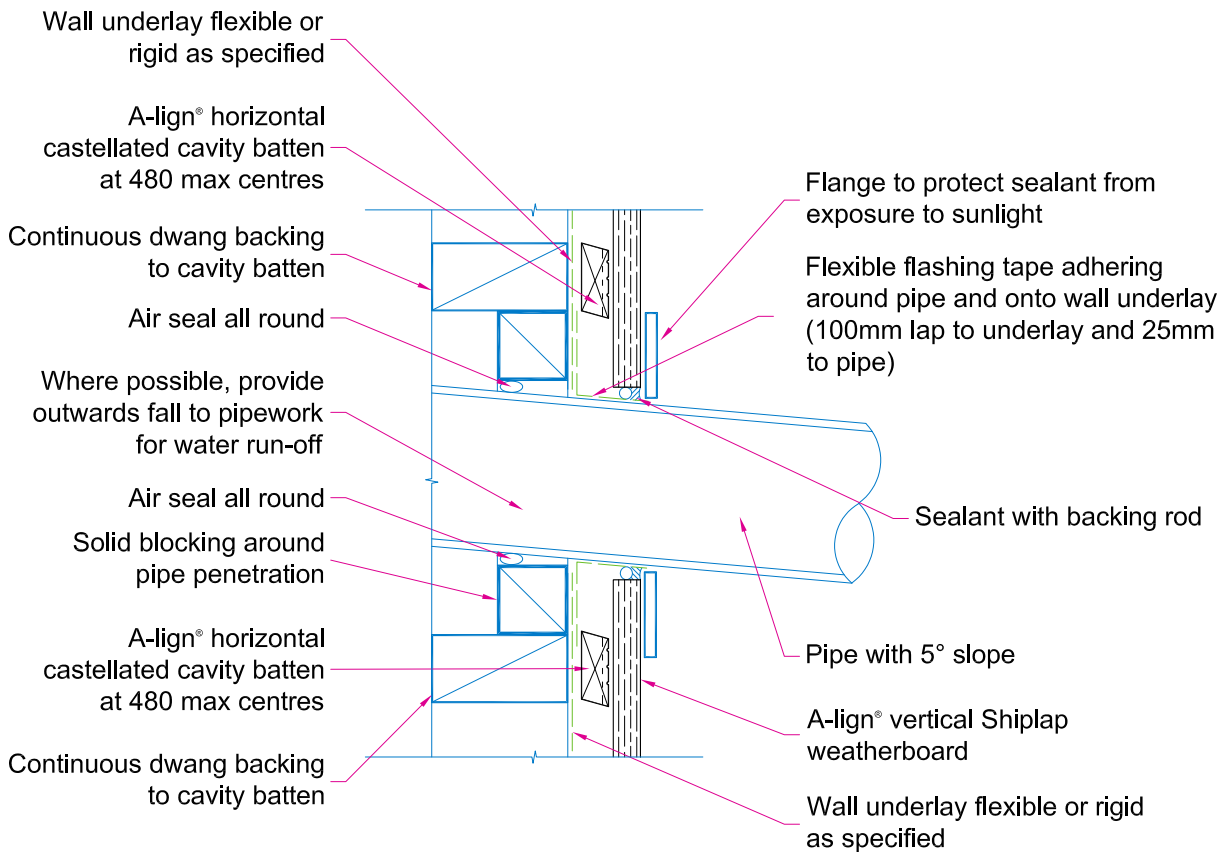
**Figure 9.29** Cavity fixed – abutting masonry veneer



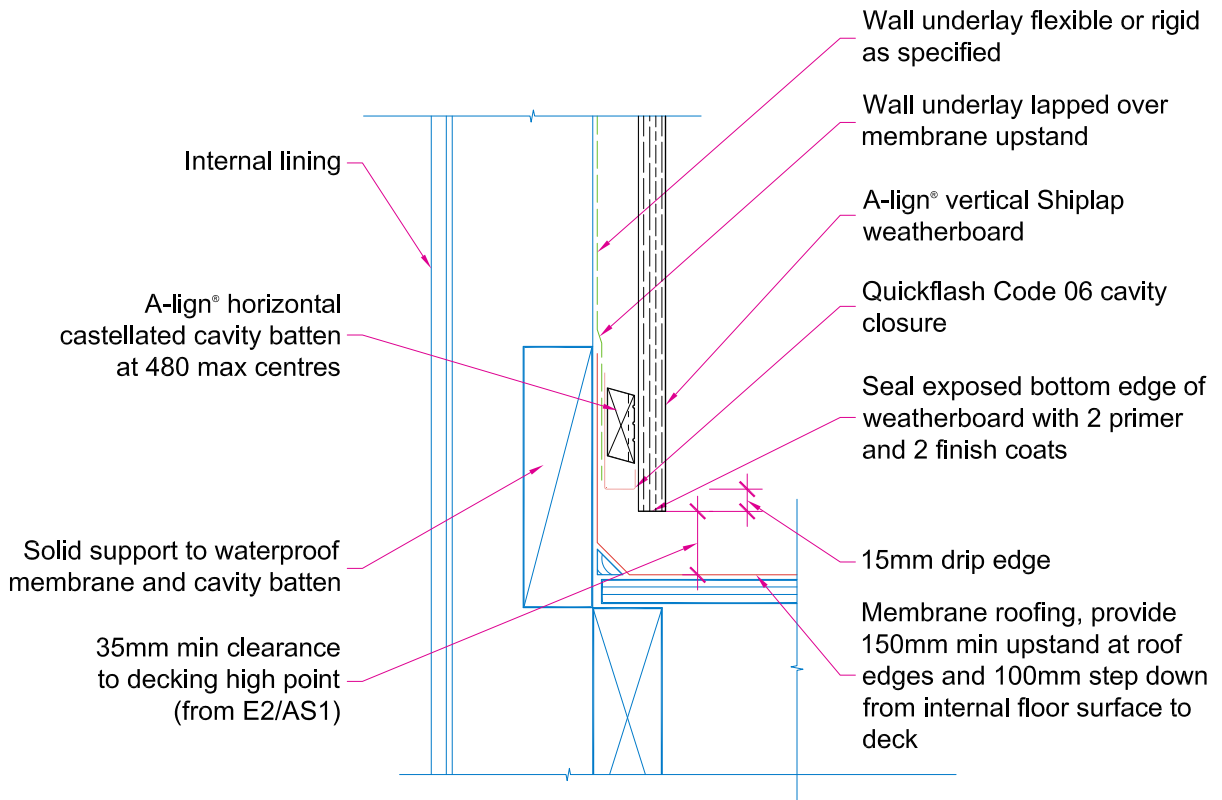
**Figure 9.29a** Cavity fixed – cavity abutting masonry veneer



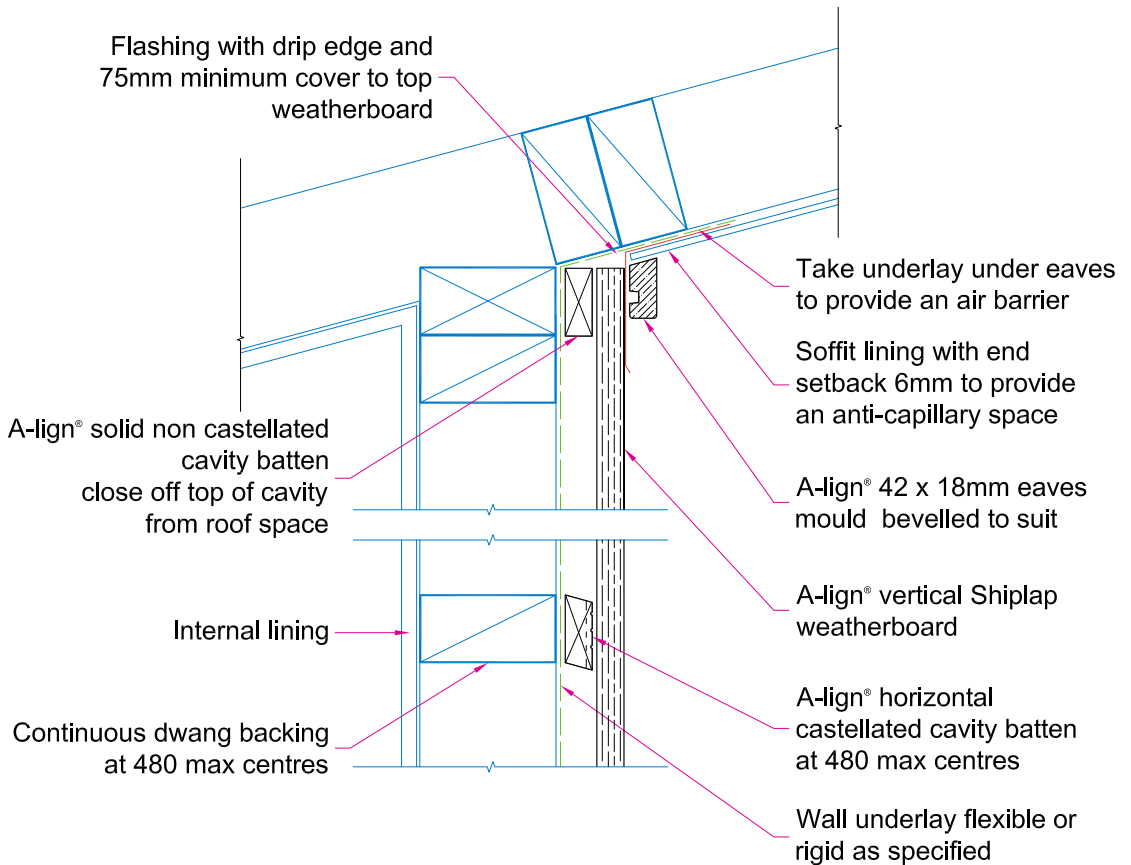
**Figure 9.30** Cavity fixed – pipe penetration



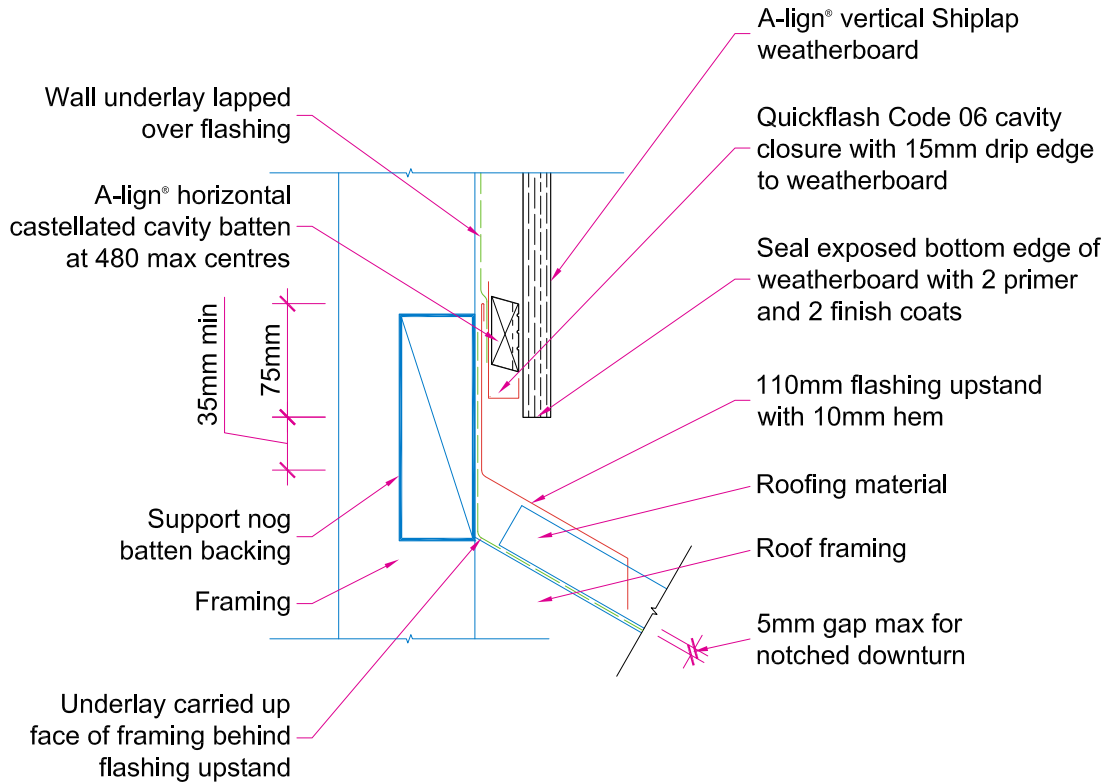
**Figure 9.31** Cavity fixed – above waterproof deck



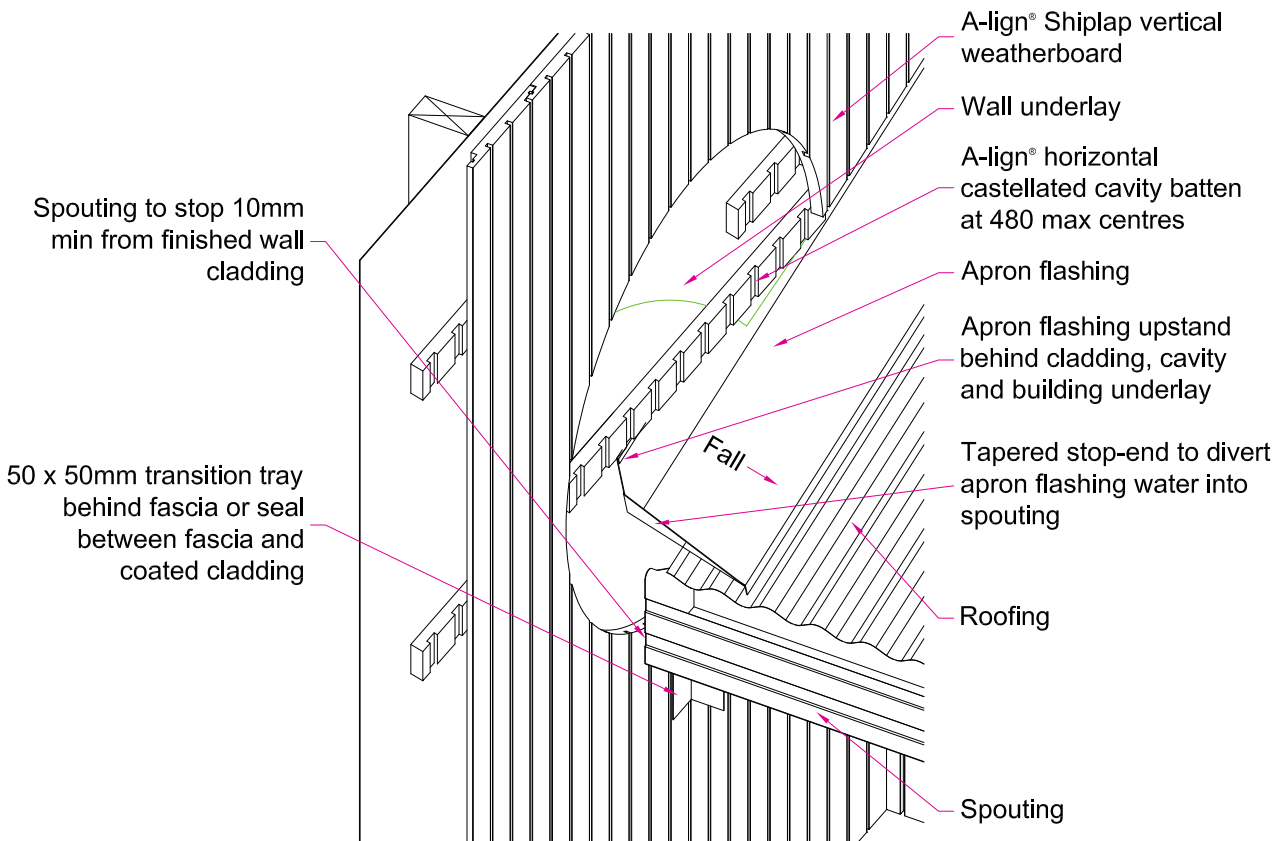
**Figure 9.32** Cavity fixed – reverse raked soffit



**Figure 9.33** Cavity fixed – apron flashing

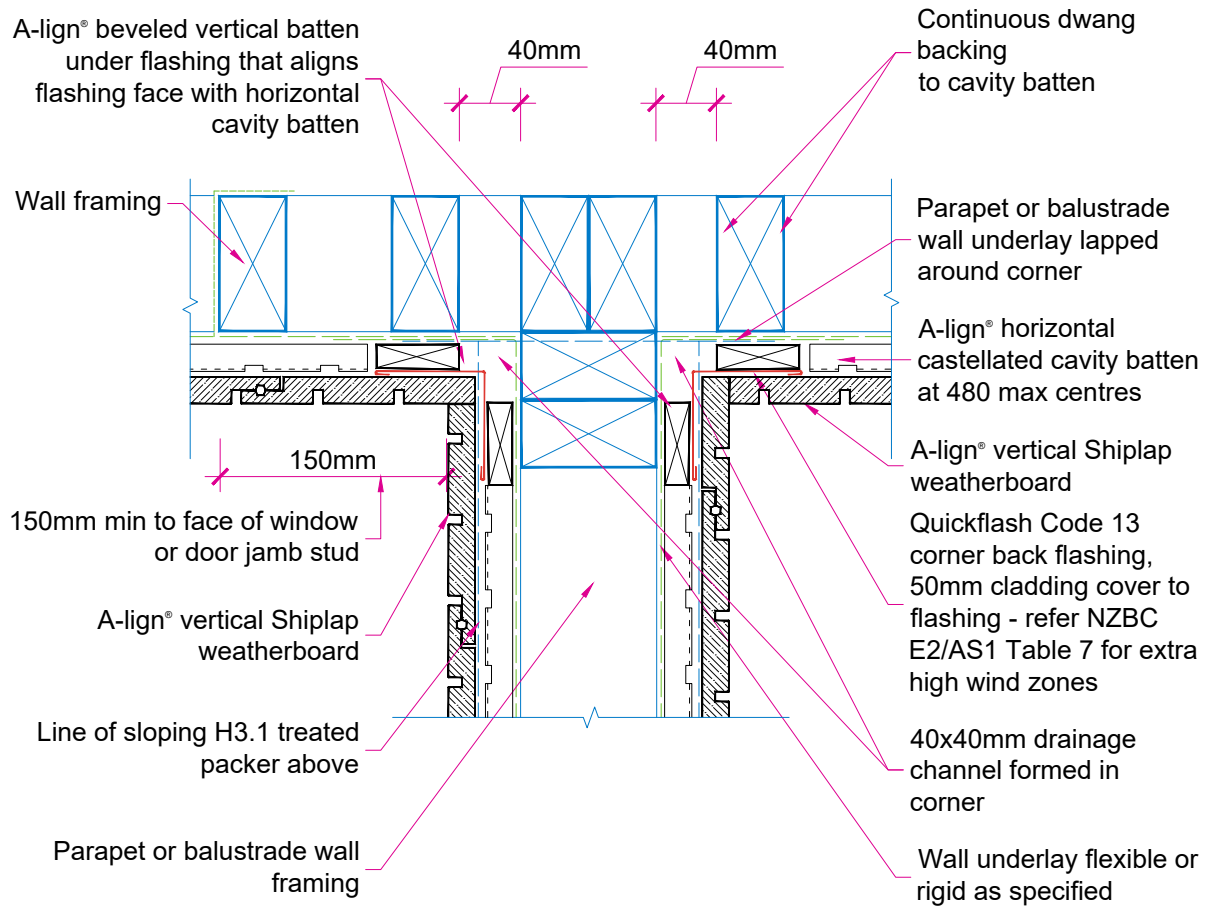


**Figure 9.34** Cavity fixed – apron flashing – stop end

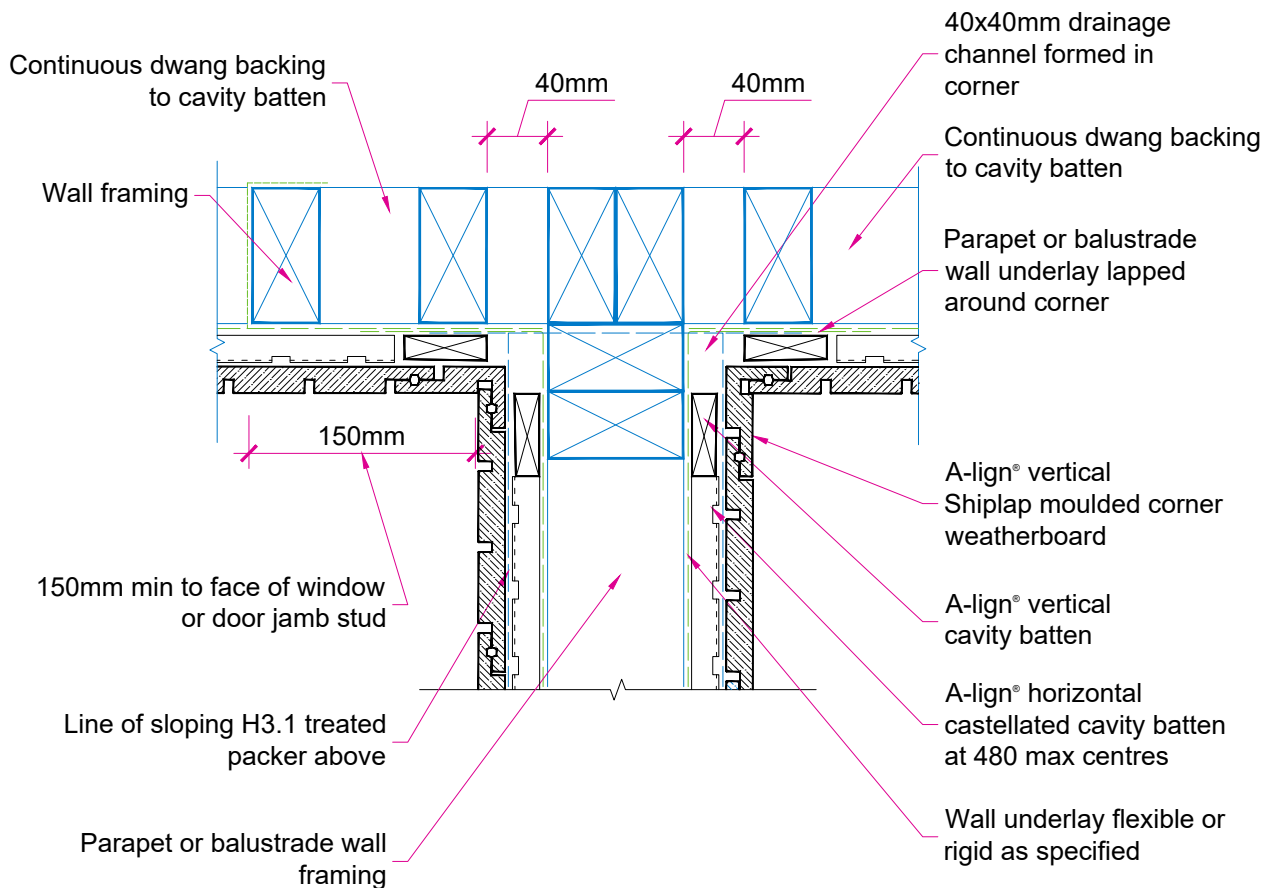


Note: Refer to NZBC Acceptable Solution E2/AS1 Table 7 for apron flashing cover over roofing

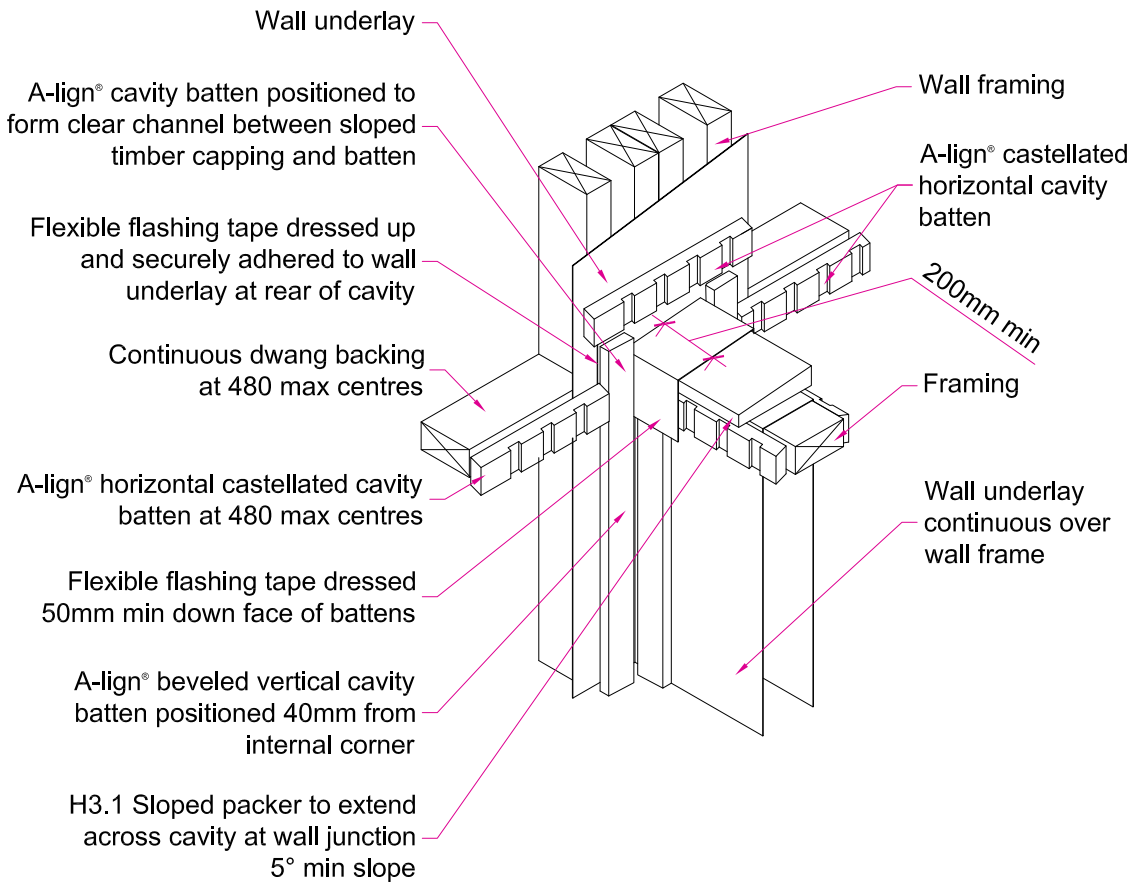
**Figure 9.35** Cavity fixed – parapet – balustrade – wall junction internal butt



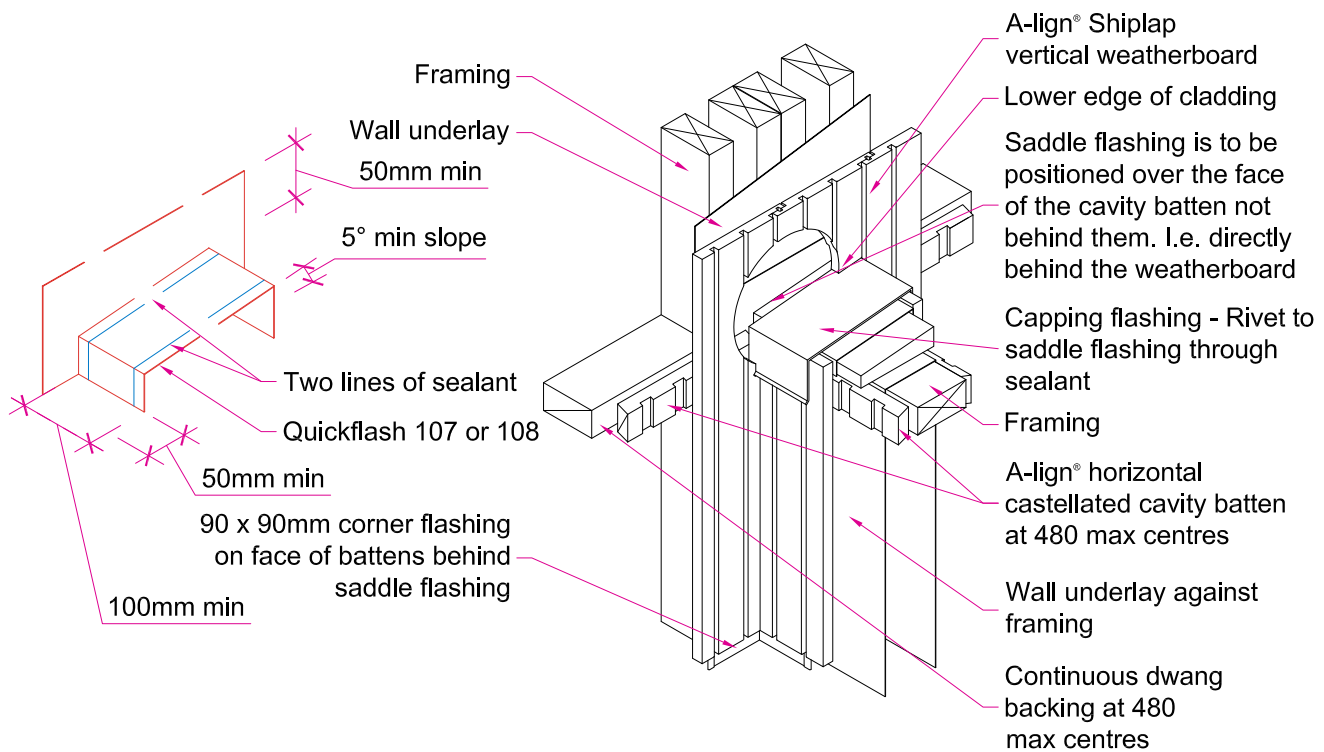
**Figure 9.35a** Cavity fixed – parapet – balustrade – wall junction moulded internal corner



**Figure 9.36** Cavity fixed – parapet – balustrade – saddle flashing

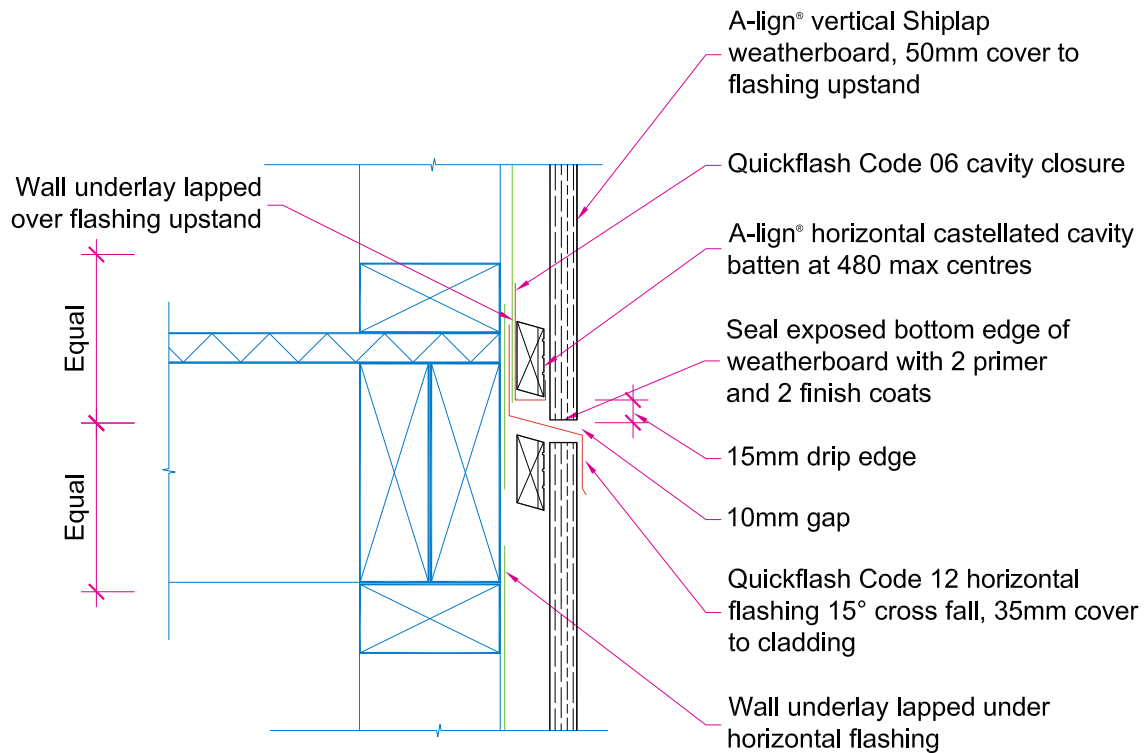


**Figure 9.37** Cavity fixed – parapet – balustrade – saddle install





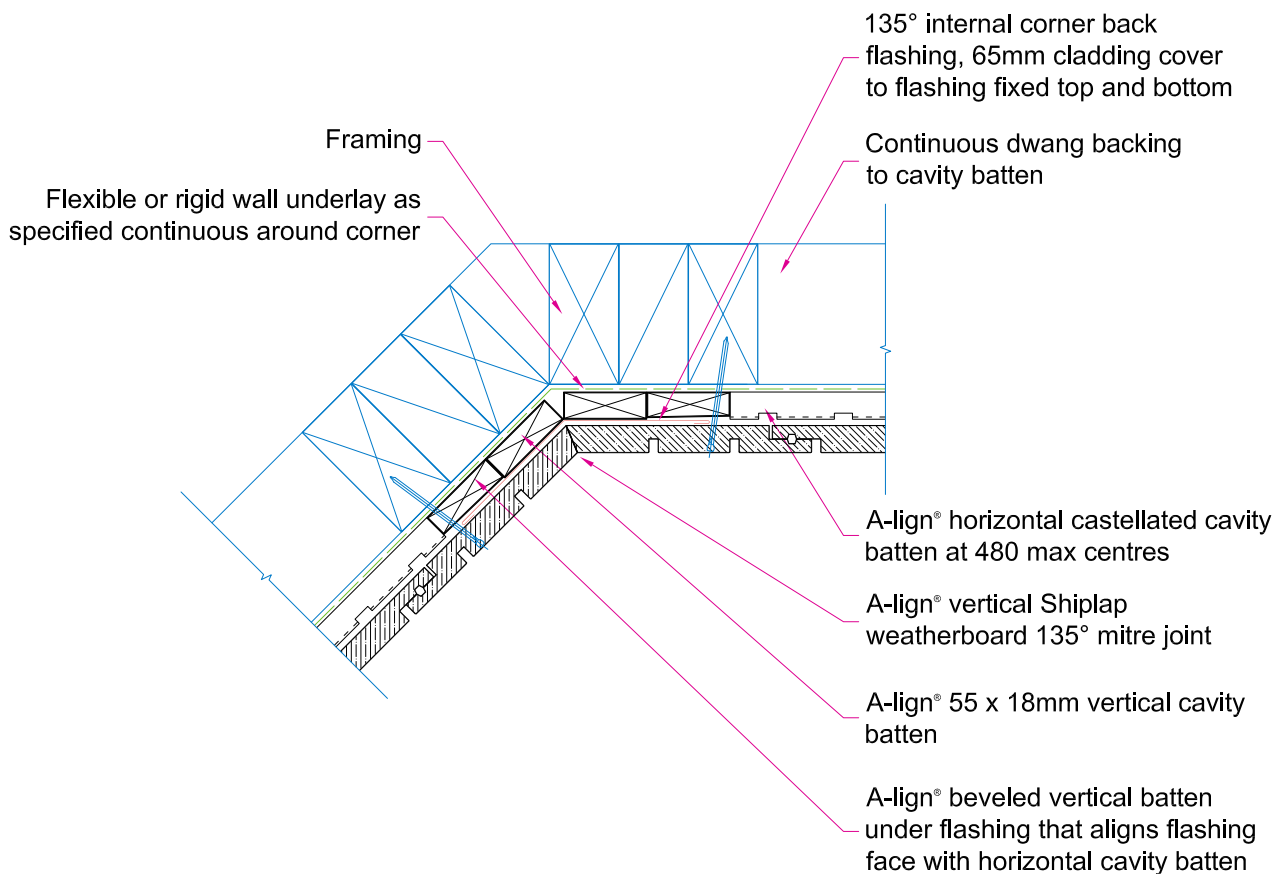
**Figure 9.38** Cavity fixed – horizontal cavity joint



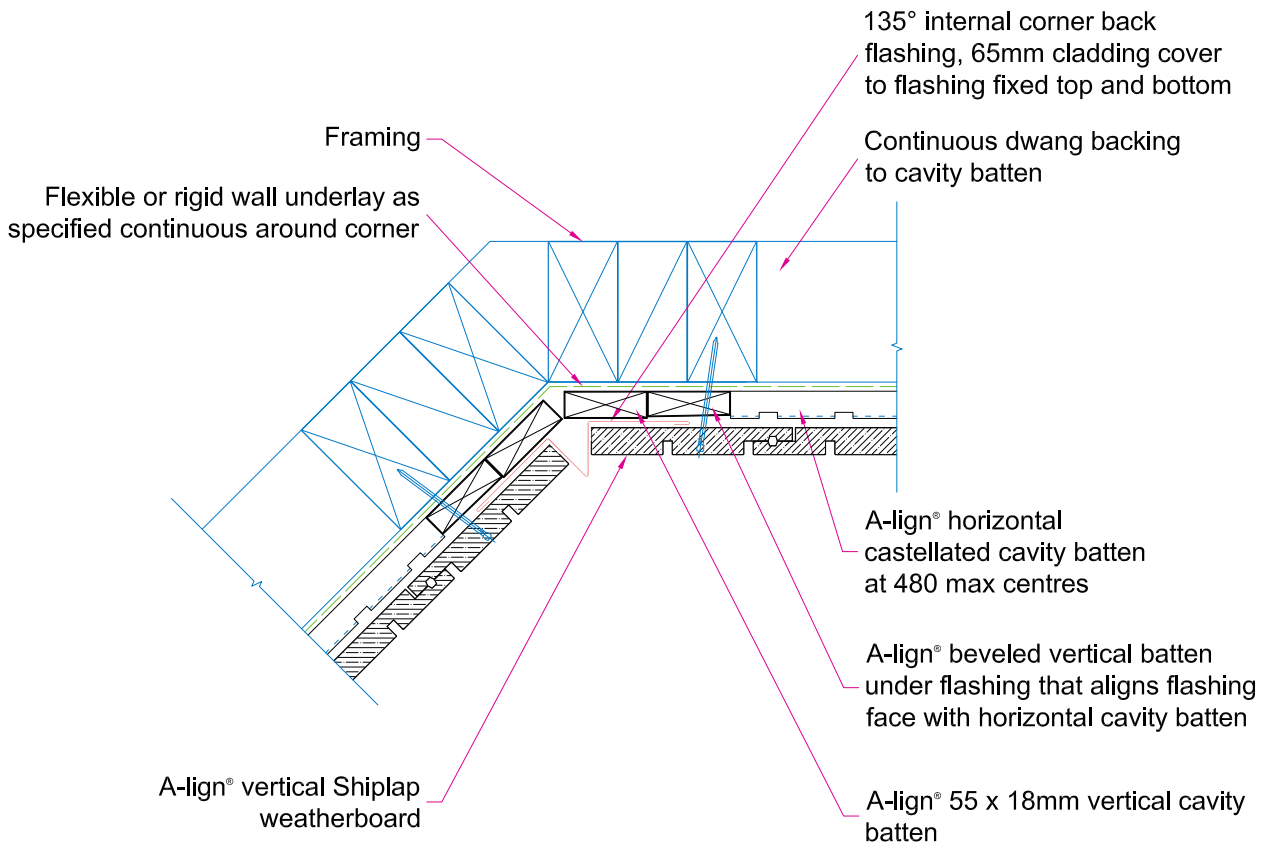
**Notes:**

1. Horizontal drained joints must be provided to limit cavities to 2-storeys or maximum 7m in height in accordance with NZBC Acceptable Solution E2/AS1 paragraph 9.1.9.4(b)
2. A-lign vertical weatherboard available in 7.20m lengths which may eliminate this cavity joint.

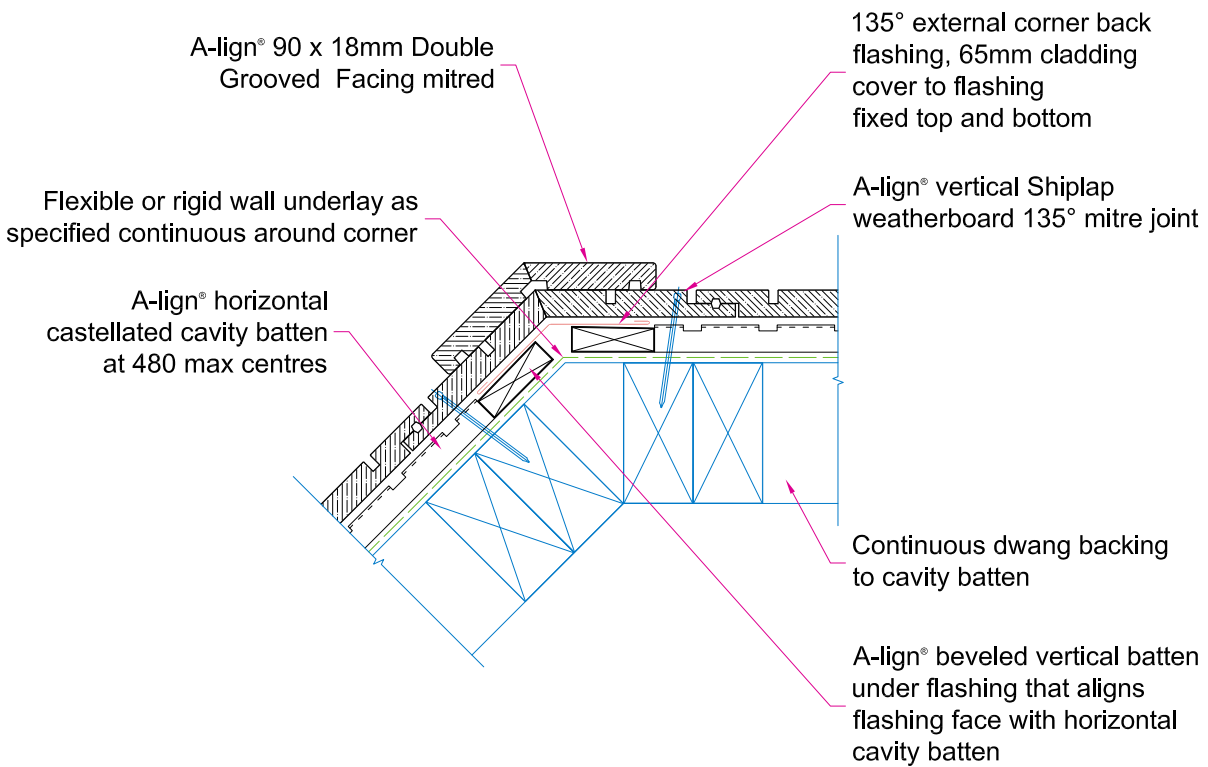
**Figure 9.39** Cavity fixed – interior corner – 135 degrees – scribed



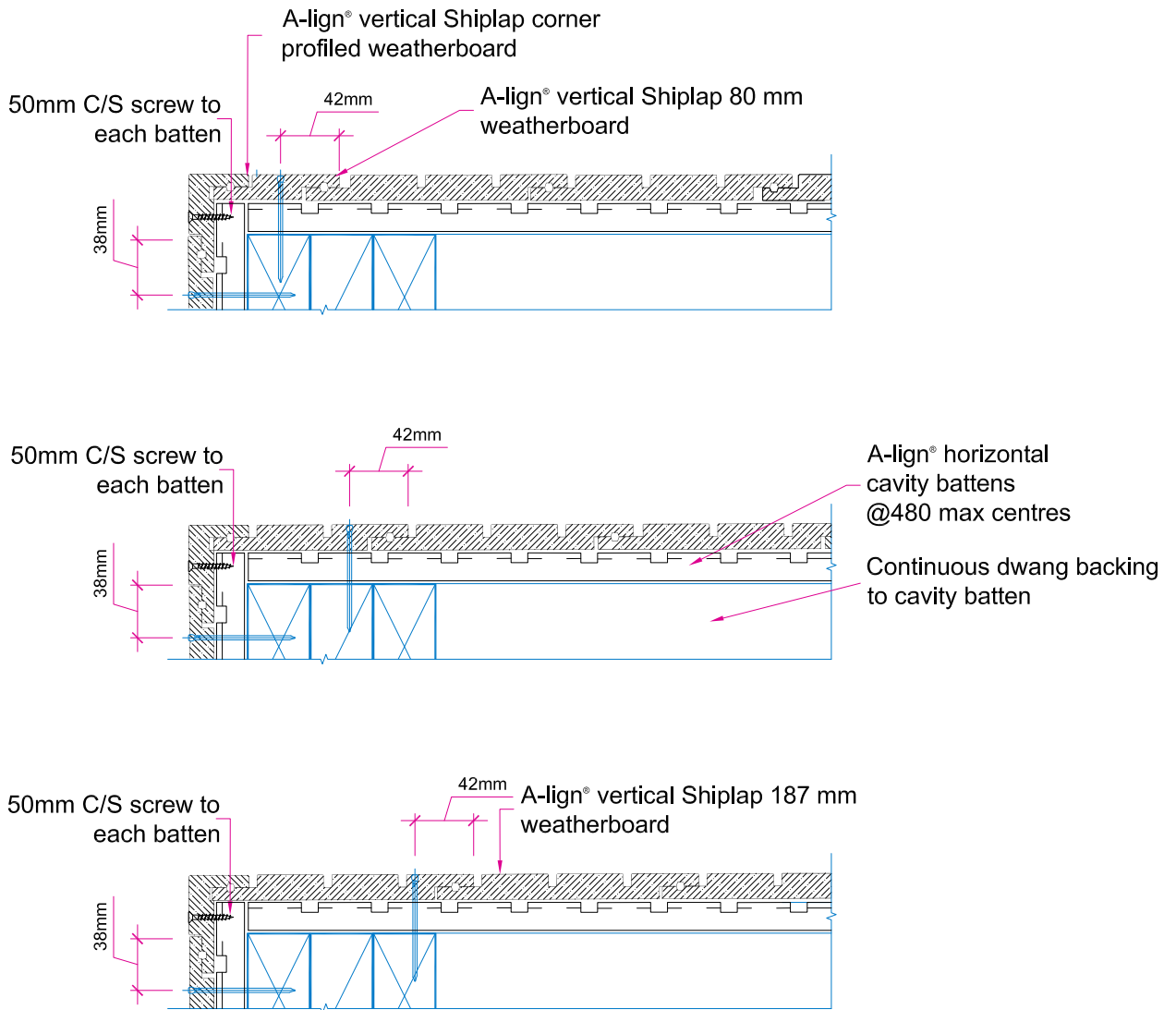
**Figure 9.40** Cavity fixed – exterior corner – 135 degrees – flashed



**Figure 9.41** Cavity fixed – exterior corner – 135 degrees – mitred

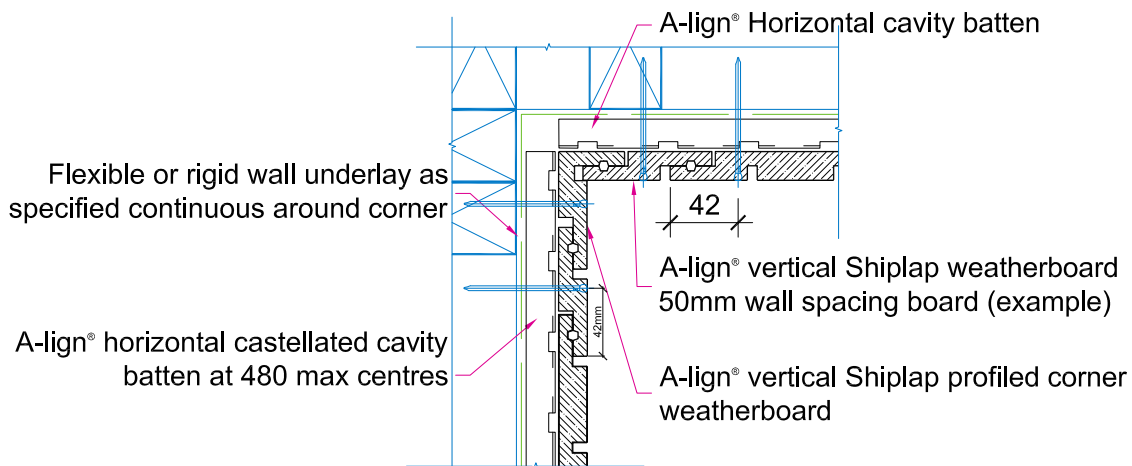


**Figure 9.42** Cavity fixed – nailing – external corner



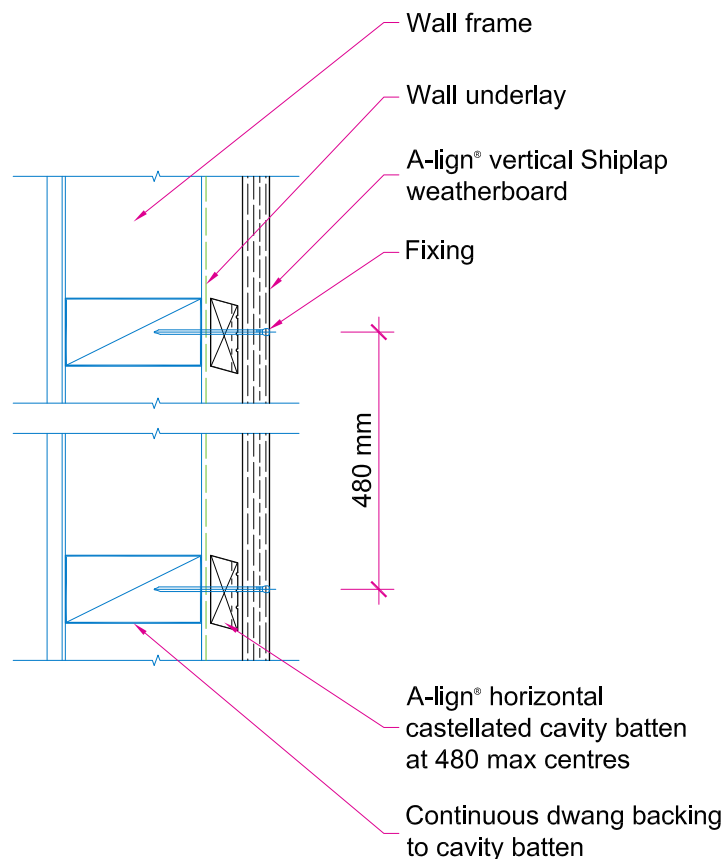
Note: Nails 60x2.8 hot dipped galvanized or stainless steel ring shanked jolt head hand driven/ gun nails in NZS 3604 wind zones up to and including very high or 75x3.15 hot dipped galvanized or stainless steel ring shanked jolt head nails in the NZS3604 extra high wind zone and specific design wind pressures up to 2.5kpa ULS.

Figure 9.42a Cavity fixed – nailing – internal corner

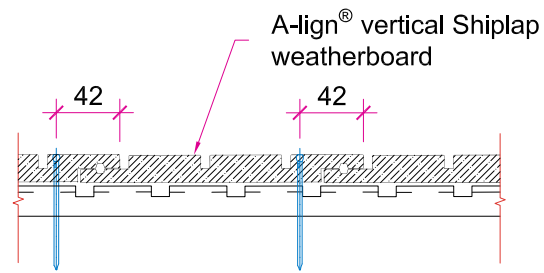


Note: Nails 60x2.8 hot dipped galvanized or stainless steel ring shanked jolt head hand driven/ gun nails in NZS 3604 wind zones up to and including very high or 75x3.15 hot dipped galvanized or stainless steel ring shanked jolt head nails in the NZS3604 extra high wind zone and specific design wind pressures up to 2.5kpa ULS.

Figure 9.42b Cavity fixed – nailing



**Figure 9.43** Cavity fixed – nailing



# Claymark Limited

## – Quality

### Claymark quality assurance standards

To constantly deliver products that perform at the highest level demands excellent standards of quality in every area of business: from the training of our people, to product improvement, to concern for the environment.

We at Claymark Ltd are proud of our reputation for quality and integrity. A reputation that has been proven for generations. Our investment in quality is core to our company philosophy. Out of that dedication, innovation flows – and excellence continues year after year.

Our most recent certifications and standards are shown here. We will update these regularly. We strive to not just follow the strictest standards of our profession but to keep ahead of them. That way you, our customer, know that whenever you choose a product or service, you are choosing real quality.

### Forest Stewardship Council® – chain of custody

Claymark Ltd has been independently certified by Scientific Certification Systems (SCS) in accordance with the rules of the Forest Stewardship Council® A.C. (FSC®).

SCS Certification Registration Number SCS-COC-00538

Timber Preservation Quality Manual. License Number 080

### New Zealand Forest Industries Council

Claymark Ltd was awarded the champion training company for solid wood processing in 2001. The certificate was awarded by Forest Industries Training and Education Council.

Refer to [www.claymark.co.nz](http://www.claymark.co.nz) for information on quality control methods.

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**For more information about our independent third party quality audit process call us at:**

**0800 25 44 61**

Monday to Friday 8am–5pm







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For more information call the  
Claymark Helpline Toll Free

**0800 25 44 61**  
Monday to Friday 8am-5pm



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