



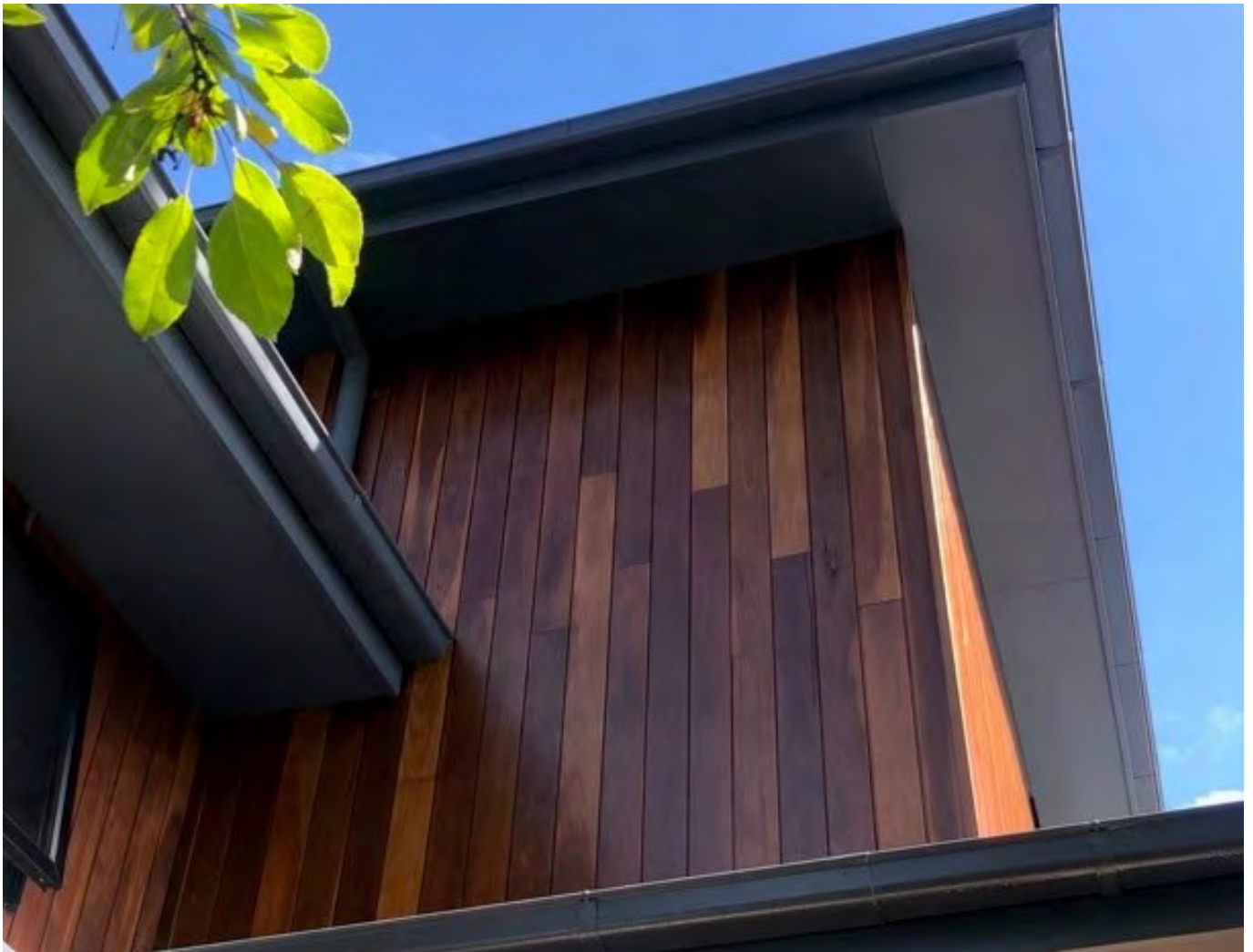
**WOOD  
ELEMENTS**  
REFINED ARCHITECTURAL CLADDING

BY HURFORD'S

# Product and Installation Guide

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# Product Description

WOOD ELEMENTS is a precision milled, timber cladding solution for external walls, utilising some of Australia's most beautiful and durable hardwoods and thermally modified pine.

Wood Elements is fully certified (PEFC Hardwood and FSC Radiata Pine) and is designed and manufactured by Hurford's, a family owned timber company, which is known for it's high quality and state of the art drying processes.

The solution includes three finishes, dressed, sawn brushed face and charred. Aluminium trims and a specified **70mm WURTH construction screw**, which is conceal fixed into the pre-machined screw location line.

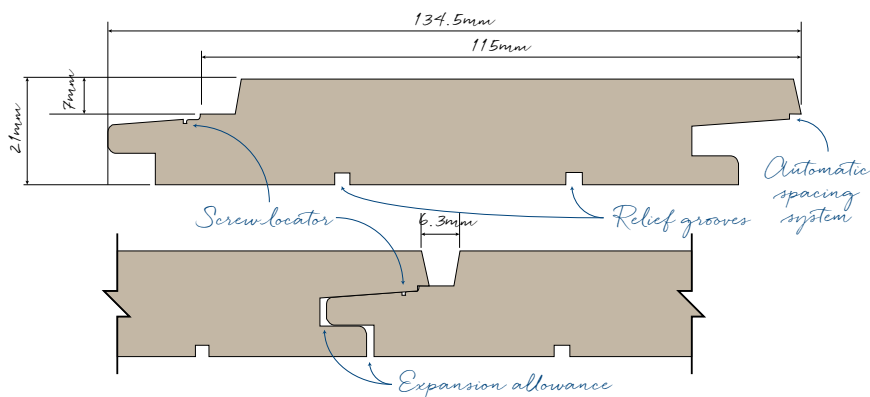
This product is designed to be installed to cavity battens and is appropriate for most residential and commercial applications up to 3 storeys in height (10 metres or less).

# Product Specification

WOOD ELEMENTS is a 21mm thick board with a 115mm cover width. Board lengths are random and the product is end matched, so that the end joins do not have to finish over battens. Not only does this reduce wastage, it also results in a more natural appearance.

## Profile

### DIAGRAM 1



A contemporary take on a traditional shadowline profile that is all about flow.

## Profile Features

Profile includes an **automatic spacing system** to accommodate expansion allowance and to assist with ease of installation. A **micro bevelled edge** at board ends divert water away from the joins and the profile also incorporates a **screw locator line** to ensure a consistent fixing position.

# Accessories

## Trims

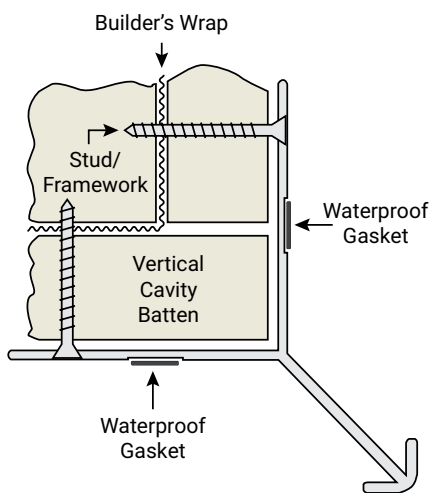
WOOD ELEMENTS trims provide a streamline finish and play an integral part in ensuring a water tight finish. All aluminium trims are factory fitted with waterproof gaskets designed to decrease the on-site sealing process. WOOD ELEMENTS trims are available in a black powder coated chromate treated aluminium.

The trims can also be used horizontally to finish the top of the cladding, but must not be used as a substitute for flashing. Flashing installation should be in accordance with NZBC E2/AS1 Section 4.0.

The following drawings provide the detail of each trim and how the trim is fixed to the wall structure.

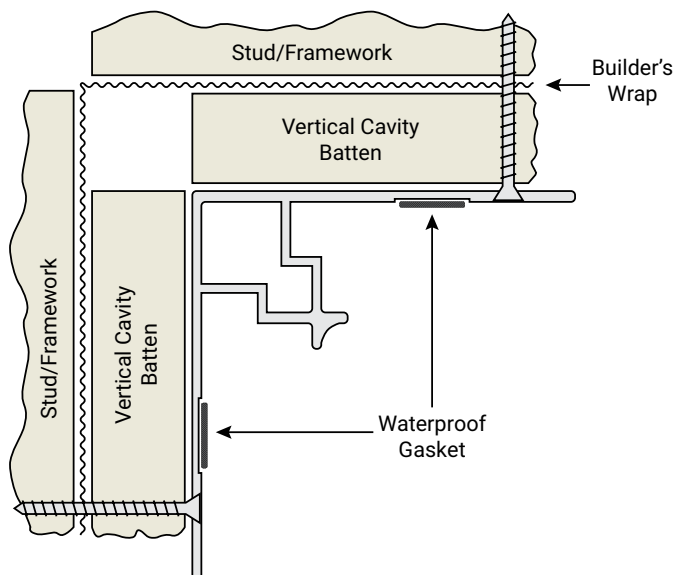
**DIAGRAM 2**

**Aluminium External Corner Stop**



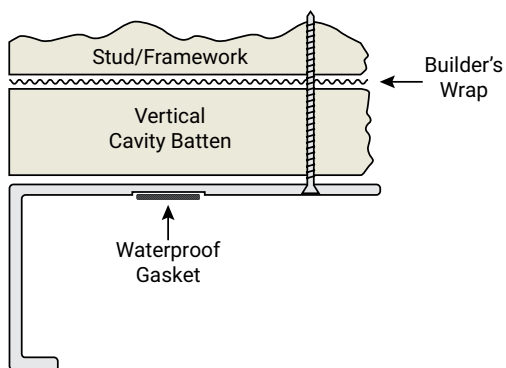
**DIAGRAM 3**

**Aluminium Internal Corner Stop**



**DIAGRAM 4**

**Aluminium End Stop L**



*Note: Pre-drill and countersink screw into Aluminium Trim.*

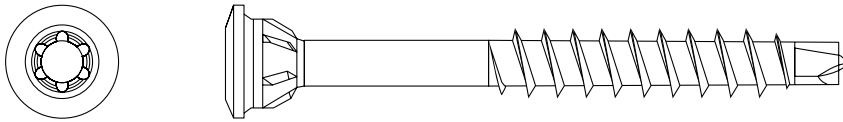
# Accessories (Cont.)

## Screws

A 70MM WURTH CONSTRUCTION SCREW and accompanying drill bit has been specified, which must be used for all WOOD ELEMENTS cladding installations.

Wurth C/SUNK 5.5m (12g) x 70mm SELF DRILLING A2 SCREW (Art. no. 0166\*\*\*\*\*)

Colour: Black/Stainless



WURTH RW20 DRIVE BIT

1/4 - L50MM (Art. no. 06147120)



*Screws and bits are available from Hurford's or other WURTH stockists.*

## Sealant

The foam gaskets fitted to the trims provide most of the protection from water penetration; where necessary, a sealant from a reputable brand that is waterproof is recommended, such as a high quality multi-purpose elastic adhesive and joint sealant.

# Building Requirements

## Building Code Compliance

By following this product and installation guide, the WOOD ELEMENTS vertical cladding solution will comply with the New Zealand Building Code (NZBC) provisions as set out below:

- » Clause B1 Structure: Performance B1.3.1, B1.3.2, B1.3.4 (b), (c), (d) and (e) for the relevant physical conditions of B1.3.3 (a), (e), (f), (h), (j), and (q)
- » Clause B2 Durability: Performance B2.3.1(b) and B2.3.2(b)
- » Clause E2 External Moisture: Performance E2.3.2, E2.3.5, E2.3.7(b) and (c)
- » Clause F2 Hazardous Building Materials: Performance F2.3.1

## Structure

Structures must conform to the New Zealand Standard 'Timber framed buildings – NZS 3604:2011' including the framing tolerances as set out in Section 2, Table 2.1.

## Limitation of Use

When Installing WOOD ELEMENTS in accordance with this product and installation guide, the following building and location limitations apply:

- » Buildings must have a risk score of between 0-20 as outlined in NZBC E2/AS1.
- » The product is suitable for new timber-framed buildings with building wrap or rigid air barrier that comply with the NZBC, or
- » Existing timber framed buildings where the designer and installer have satisfied themselves that the existing building is suitable for the intended building work.

- » In each case, a height limitation of 10 metres (up to 3 storeys) applies, measured from lowest ground level adjacent to the building to the highest point of the roof (except for chimneys, aerals and the like).
- » Stud spacing in walls is limited to maximum 600 mm centres.
- » Nog/dwang spacing is limited to maximum 600 mm centres, with non-structural castellated cavity battens then fixed to the nogs.
- » Floor plan area will be limited only by seismic and structural control joints.
- » Use of the product must be located more than 1 metre from relevant boundaries.
- » The product can be installed in wind zones up to and including extra high as defined in NZS 3604:2011 or situated in specific design wind pressures up to a maximum design differential ultimate limit state (ULS) of 2.5 kPa, where the building has been specifically engineered.
- » The product can be installed in all corrosion zones, excluding microclimates as defined in NZS 3604:2011 and with fastening materials to be in accordance with NZBC E2/AS1 Table 24.

## Window and Door Joinery

Windows and doors joinery to meet the requirements of **NZS 4211-2008** and installed in accordance with NZBC E2/AS1.

## Flashings

Flashings to comply with NZBC E2/AS1 Section 4.0.

- » All flashing materials should be compatible with surrounding materials and comply with NZBC E2/AS1 Tables 20, 21 and 22.

- » Refer to NZBC E2/AS1 Figure 79 for internal corner flashing detail.
- » Refer to NZBC E2/AS1 Figure 70 for inter-storey junction detail.
- » In 'Extra High' wind zones, flashings must comply with NZBC E2/AS1, Paragraph 4.5.1.

## Battens

The cladding solution requires installation to a horizontal cavity batten system.

As a drained cavity is needed between the cladding and the wall underlay, a non-structural castellated batten should be used, which should include a sloping top edge to provide drainage away from the wall structure.

The battens are positioned over the nogs and temporarily fixed over the wall underlay to the frame.

The battens are then permanently fixed to the nogs via the cladding screws as the cladding is installed.

Batten spacing is to be maximum 600 mm centres.

In accordance with NZBC E2/AS1 Paragraph 9.1.8.4, cavity battens shall:

- » Be nominal 20 mm (between limits of 18 mm and 25 mm in thickness), noting that 19 mm – 20 mm thickness is recommended for WOOD ELEMENTS.
- » Be a minimum 45 mm wide.
- » Be fixed, by the cladding fixings, through the wall underlay into the framing.
- » The timber batten material must comply with B2/AS1.

Permanent fixings to penetrate 30 mm into the frame structure.

# Building Requirements (Cont.)

## Underlay

Wall underlay to comply with NZBC E2/AS1, Paragraphs 9.1.7.1 and 9.1.7.2, which includes adherence to NZBC E2/AS1 Table 23.

For flexible wall underlays, where the stud spacings are greater than 450 mm centres, an intermediate restraint shall be installed to avoid the underlay bulging into the cavity. Use a polypropylene tape fixed horizontally at 300 mm centres.

A rigid underlay is required in 'Extra High' wind zones.

Rigid underlays are also required to external walls of attached garages that are unlined. Refer to NZBC E2/AS1, Paragraphs 1.1.1 and 9.1.3.4 c)

Where a rigid underlay is used, a flexible underlay shall be over-fixed using an appropriate underlay from NZBC E2/AS1, Table 23. Note that some proprietary systems may not require the addition of a flexible underlay.

If a rigid underlay is required, the cladding screw size may need to be increased to accommodate the additional thickness of the rigid underlay.

## Continuous Board Lengths Over a Storey Height

The WOOD ELEMENTS vertical cladding solution is end matched and is designed to divert water away from the end joints. Due to the use of random lengths, this aspect is outside the scope of NZBC E2/AS1, Paragraph 9.4.5 and has been tested so that continuous board lengths over (or up to) a storey height are not required with this cladding.

## Horizontal Control Joints

Inter-storey junctions are required for walls to limit continuous cavities to the lesser of 2 storeys or 7 metres. Refer to NZBC E2/AS1 Figure 70.

## Vermin Proofing

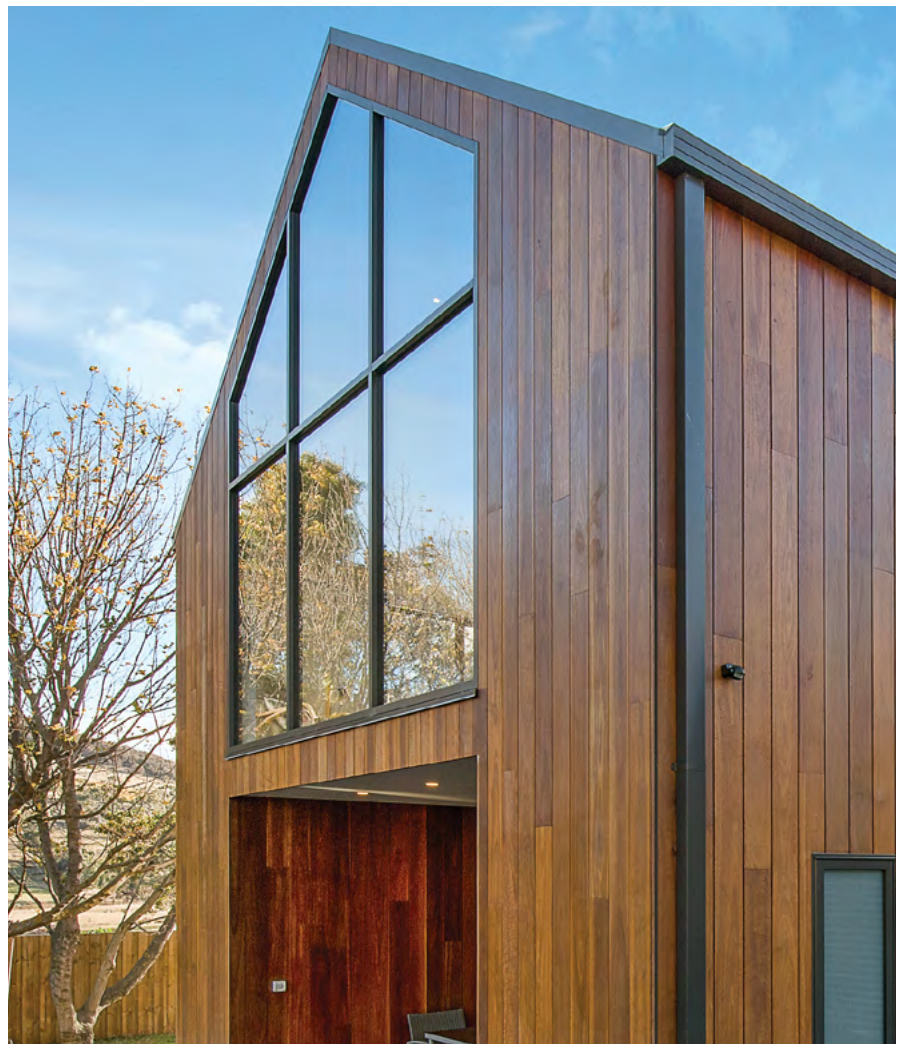
Vermin proofing needs to be installed at the base of all walls, above window and door heads (and other horizontal openings such as meter boxes) in accordance with NZBC E2/AS1 Paragraph 9.1.8.3.

NZBC E2/AS1 Figure 66 provides an example of an appropriate cavity closer.

## Ground Clearance

Refer to NZS 3604:2011 Figures 7.11 and 6.21 and NZBC E2/AS1 Figure 65 and Table 18 to provide appropriate ground clearance for cladding.

Cladding is to extend a minimum 50 mm below the bearer or lowest part of the timber floor framing (bottom plate).



# Preparation

## Delivery

It is essential that the cladding boards are kept dry and handled carefully prior to installation. Confirm product is securely wrapped prior to transporting and check weather to avoid wet conditions where possible.

Use a hoist or hand unload from truck to avoid damage.

## Storage

Once on site, it is recommended to store the cladding in an enclosed building. If exposed to the elements, provide watertight protection by wrapping securely, ensuring that airflow is maintained to reduce condensation.

In all cases, wrap and store product horizontally on bearers and clear of the ground (minimum 100 mm). Avoid storing over vegetation areas and where water may pond.

For best performance, avoid storing the product on-site for prolonged periods of time. Where possible, plan for delivery when the cladding is ready to be installed.

## Pre-Installation

Check that all weather and vermin proofing aspects are installed and functioning as designed, e.g. breathable and unobstructed cavities, flashings and cavity closers installed, no water traps etc.

Check that correct trim types and quantities have been delivered.

It is important to wear appropriate PPE when working with timber and associated products including dust masks, gloves, ear and eye protection.

Where a coated finish is sought, cladding and timber trims must be pre-coated on all faces and edges prior to installation.

A factory pre-coat option for the cladding is available. If this option has been supplied, then the boards are delivered ready to install and do not require pre-coating on-site.

If the product is to weather and grey naturally, no pre-coating is required. Note, that a coated finish is recommended and will be expected to prolong the life of the cladding.





# Installation

The WOOD ELEMENTS cladding solution should only be installed by a suitably qualified and experienced trade person.

Check that the frame is straight and that nogs/dwangs are flush with the studs.

Install wall underlay horizontally to the frame in accordance with NZBC E2/AS1.

Temporarily fix 19 mm – 20 mm thick castellated cavity battens over nogs (for vertical installation) or studs (for horizontal installation), ensuring that batten spacing does not exceed 600 mm centres. If installing battens horizontally for vertical cladding installation, ensure that the bevelled top of the batten slopes towards the cladding and away from the wall structure.

Install the WOOD ELEMENT trims as per the instructions.

Measure each wall width and locate the centre to determine the board width necessary for the first and last rows to be equal when cut down (ripped). Walls fitted in this way are considered to produce a more balanced and visually pleasing finish and may assist in avoiding narrow boards being used at the end of the wall.

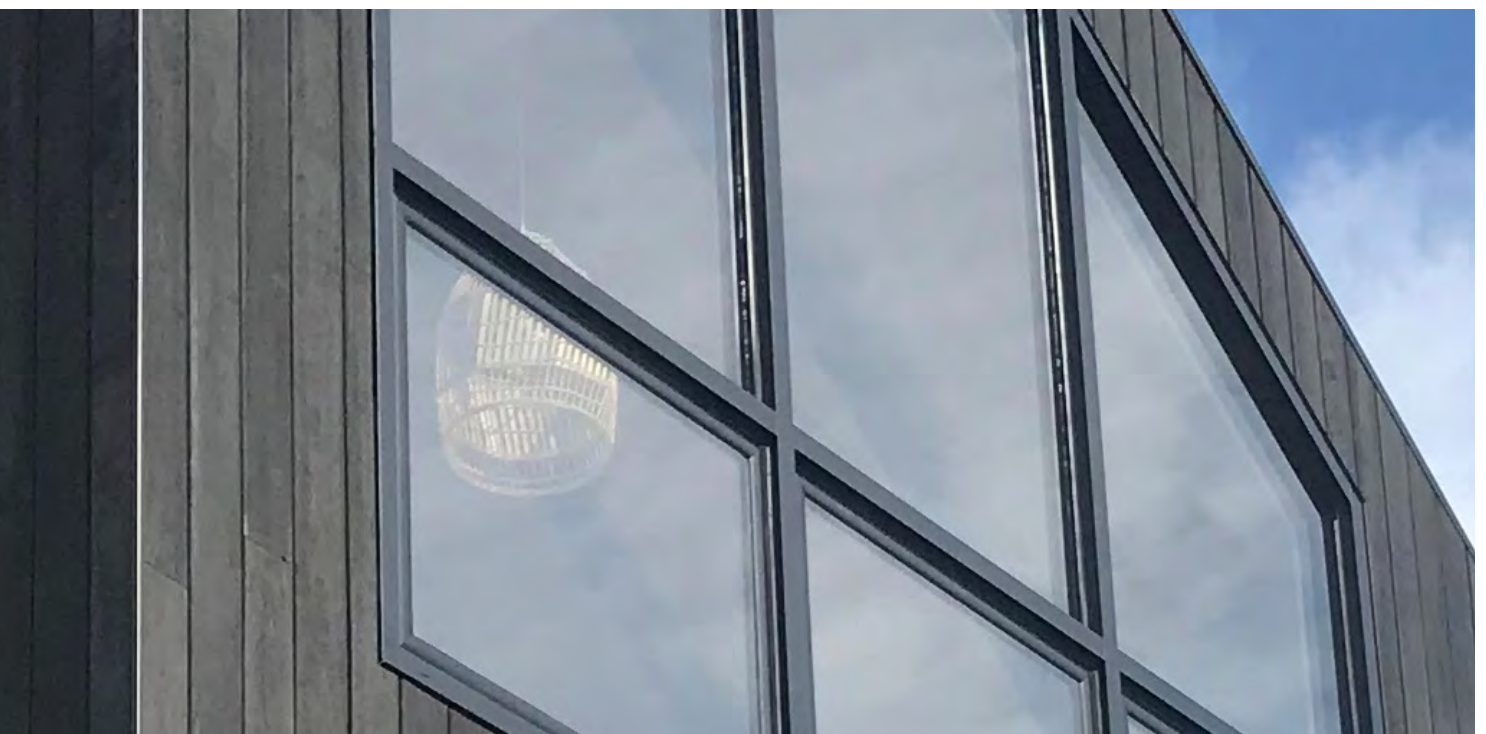
It is recommended to mark out the board increments using a storey rod to ensure boards stay aligned.

The boards are end matched, allowing random joins between battens. When installing vertically, always ensure that the tongue is facing up and the groove is facing down when installing end matched boards to the wall (see diagram 8).

Apply sealant to trim where required as per installation diagram 5, 6, 7-A and 7-B (for vertical installation) or 10,11,12-A and 12-B (for horizontal installation).

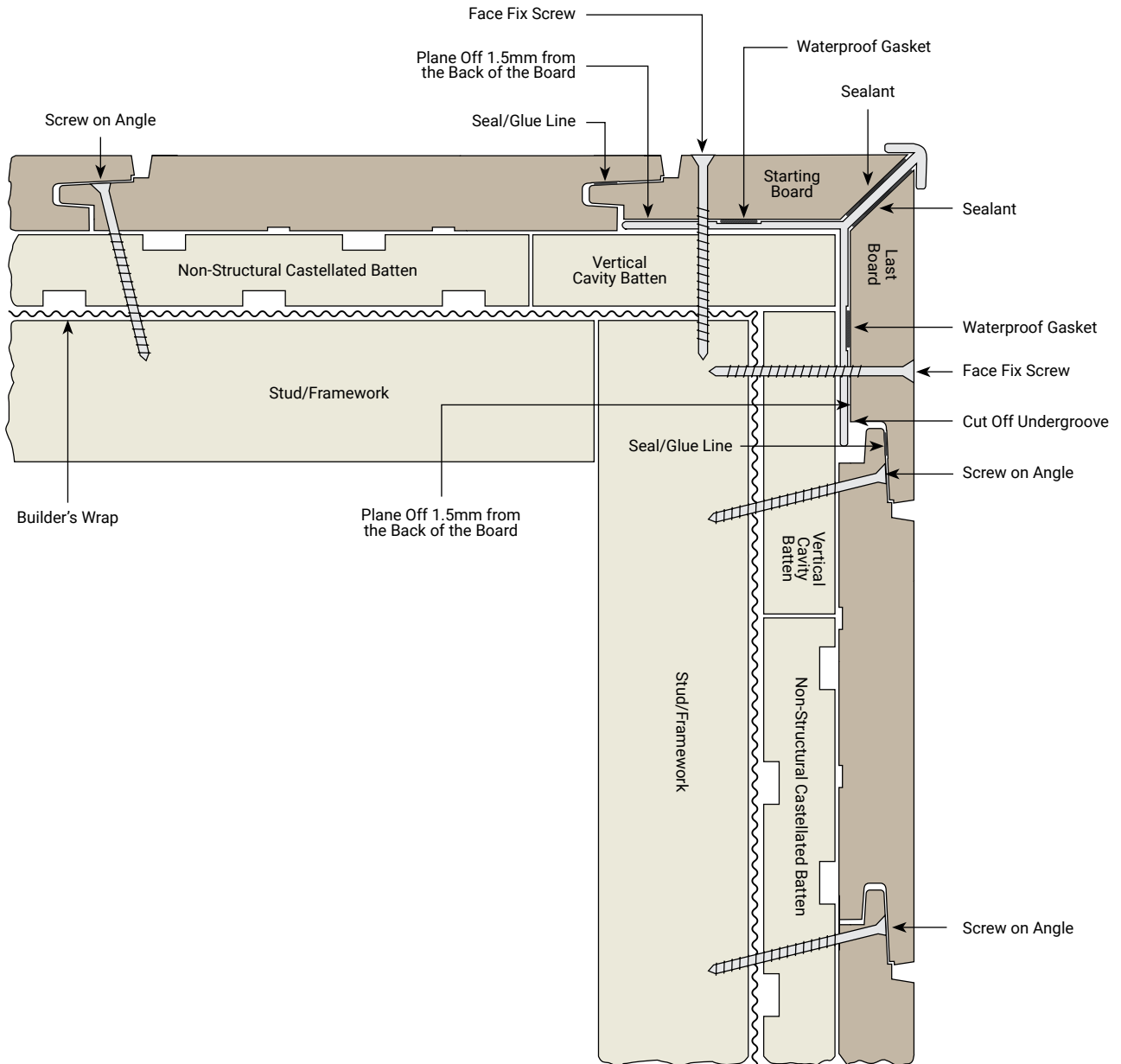
The starter board needs to be screwed through the face so that the first row is firmly secured, using the specified screw to fix the cladding through the batten and wall underlay and into the frame structure. Ensure the board is all the way into trim.

Apply a bead of sealant to the groove of the end match and slide the next board into place, locking the boards together. Then fix the board onto the cavity battens by screwing along the pre-machined screw location line on a slight angle back towards the board. It is recommended to pre-drill all fixing points. Scrape off any excess sealant once dry.



# Vertical Installation

**DIAGRAM 5**

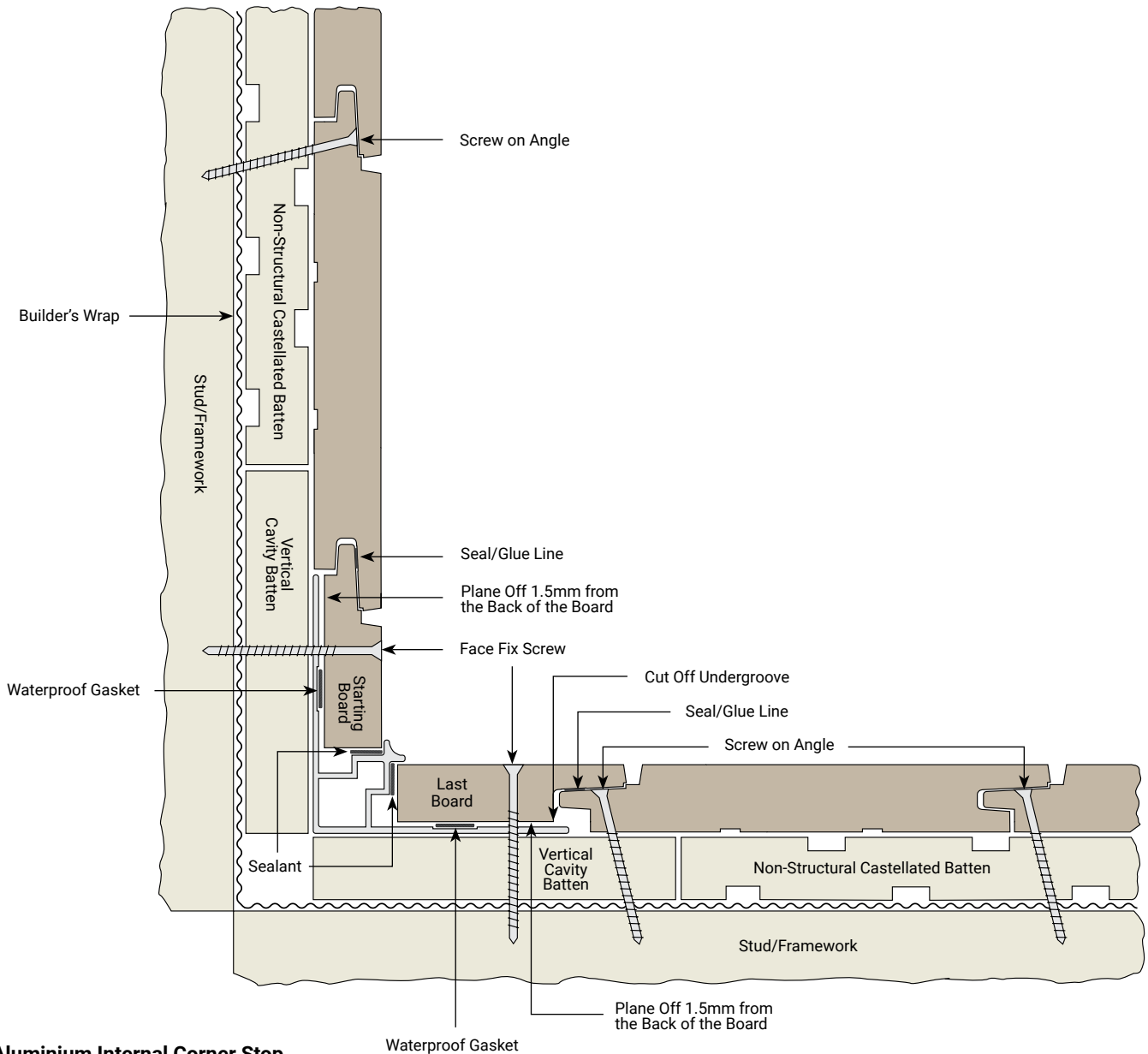


**Aluminium External Corner Stop  
(install prior to cladding)**

- a. Screw the trim to the studs as per diagram 2. Screw Size: 10g x 45mm.
- b. Apply a bead of sealant where noted; ensure enough sealant is used to create a moisture barrier. Scrap excess sealant off once dry.
- c. Cladding board edge will need to be mitred.
- d. Plane off 1.5mm from the back of the starting and last board to keep surface flat and ensure water tightness in tongue and groove.
- e. Face fix cladding through to stud allowing gaskets to compress.
- f. Direction of tongue and groove is dictated by ensuring tongue of end match is facing up.
- g. Apply sealant to the groove of the first board after the starter board. Then engage ensuring not to push board past the locator ridge. Pre-drill and screw the board on a slight angle back towards the board using the screw locator line as a guide.
- h. Engage next board ensuring not to push past locator ridge and continue screwing boards off on a slight angle back towards board.
- i. Rip undergroove off last board so it fits neatly into trim and drops over previous secret fixed board. Last board is to be face fixed and sealant added to underside of groove.

# Vertical Installation

**DIAGRAM 6**

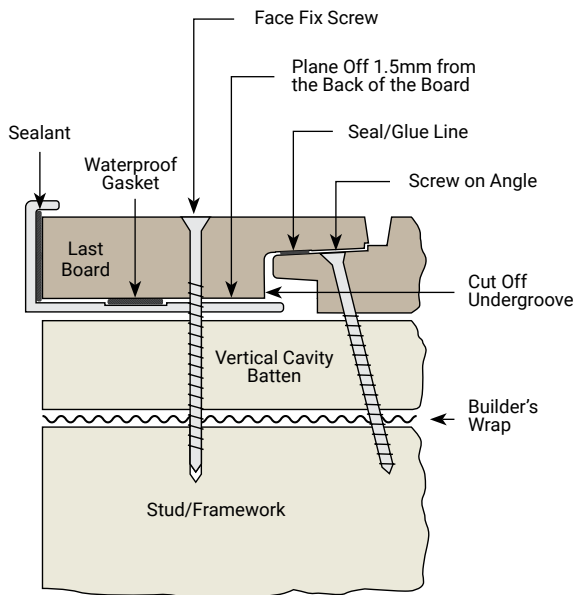


**Aluminium Internal Corner Stop  
(install prior to cladding)**

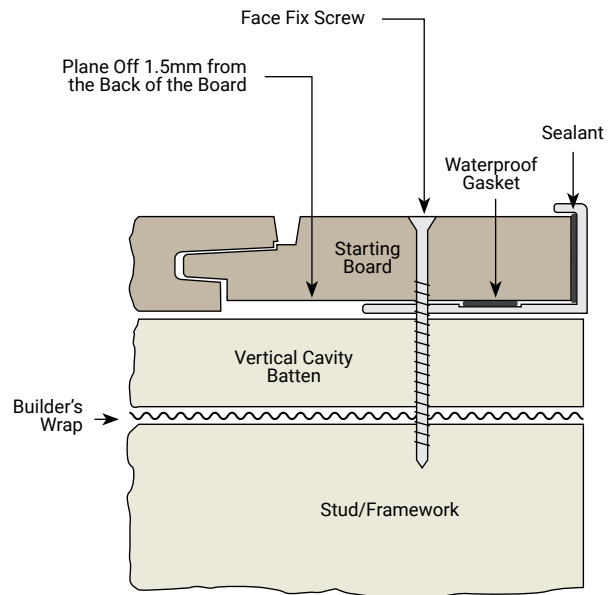
- a. Screw the trim to the studs as per diagram 2. Screw Size: 10g x 45mm.
- b. Apply a bead of sealant where noted; ensure enough sealant is used to create a moisture barrier. Scrap excess sealant off once dry.
- c. Cladding board edge will need to be ripped.
- d. Plane off 1.5mm from the back of the starting and last board to keep surface flat and ensure water tightness in tongue and groove.
- e. Face fix cladding through to stud allowing gaskets to compress.
- f. Direction of tongue and groove is dictated by ensuring tongue of end match is facing up.
- g. Apply sealant to the groove of the first board after the starter board. Then engage ensuring not to push board past the locator ridge. Pre-drill and screw the board on a slight angle back towards the board using the screw locator line as a guide.
- h. Engage next board ensuring not to push past locator ridge and continue screwing boards off on a slight angle back towards board.
- i. Rip undergroove off last board so it fits neatly into trim and drops over previous secret fixed board. Last board is to be face fixed and sealant added to underside of groove.

# Vertical Installation

**DIAGRAM 7-A**



**DIAGRAM 7-B**

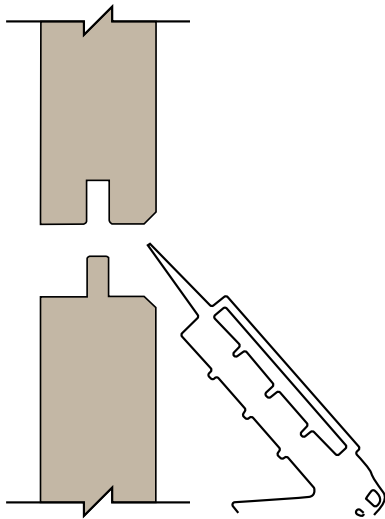


## Aluminium End Stop L (install prior to cladding)

- Screw the trim to the studs as per diagram 2. Screw Size: 10g x 45mm.
- Apply a bead of sealant where noted; ensure enough sealant is used to create a moisture barrier. Scrap excess sealant off once dry.
- Cladding board edge will need to be ripped.
- Plane off 1.5mm from the back of the starting and last board to keep surface flat and ensure water tightness in tongue and groove.
- Face fix cladding through to stud allowing gaskets to compress.
- Direction of tongue and groove is dictated by ensuring tongue of end match is facing up.
- Apply sealant to the groove of the first board after the starter board. Then engage ensuring not to push board past the locator ridge. Pre-drill and screw the board on a slight angle back towards the board using the screw locator line as a guide.
- Engage next board ensuring not to push past locator ridge and continue screwing boards off on a slight angle back towards board.
- Rip undergroove off last board so it fits neatly into trim and drops over previous secret fixed board. Last board is to be face fixed and sealant added to underside of groove.

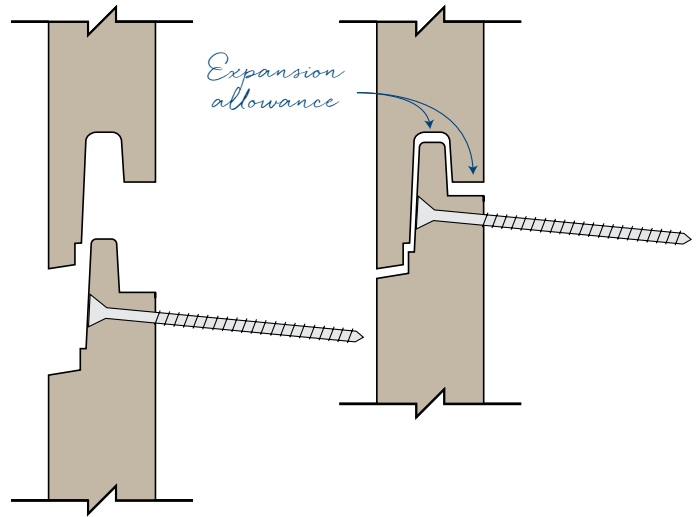
# Vertical Installation

**DIAGRAM 8**



Continue installing the boards from the starter board. ! *Tip: A light tap with a rubber mallet can help engage longer boards.* Check the integrity of each board prior to installation. The Automatic Spacing System will provide the correct expansion allowance, as shown in Diagram 1. Follow the increment markings to ensure a level line is maintained.

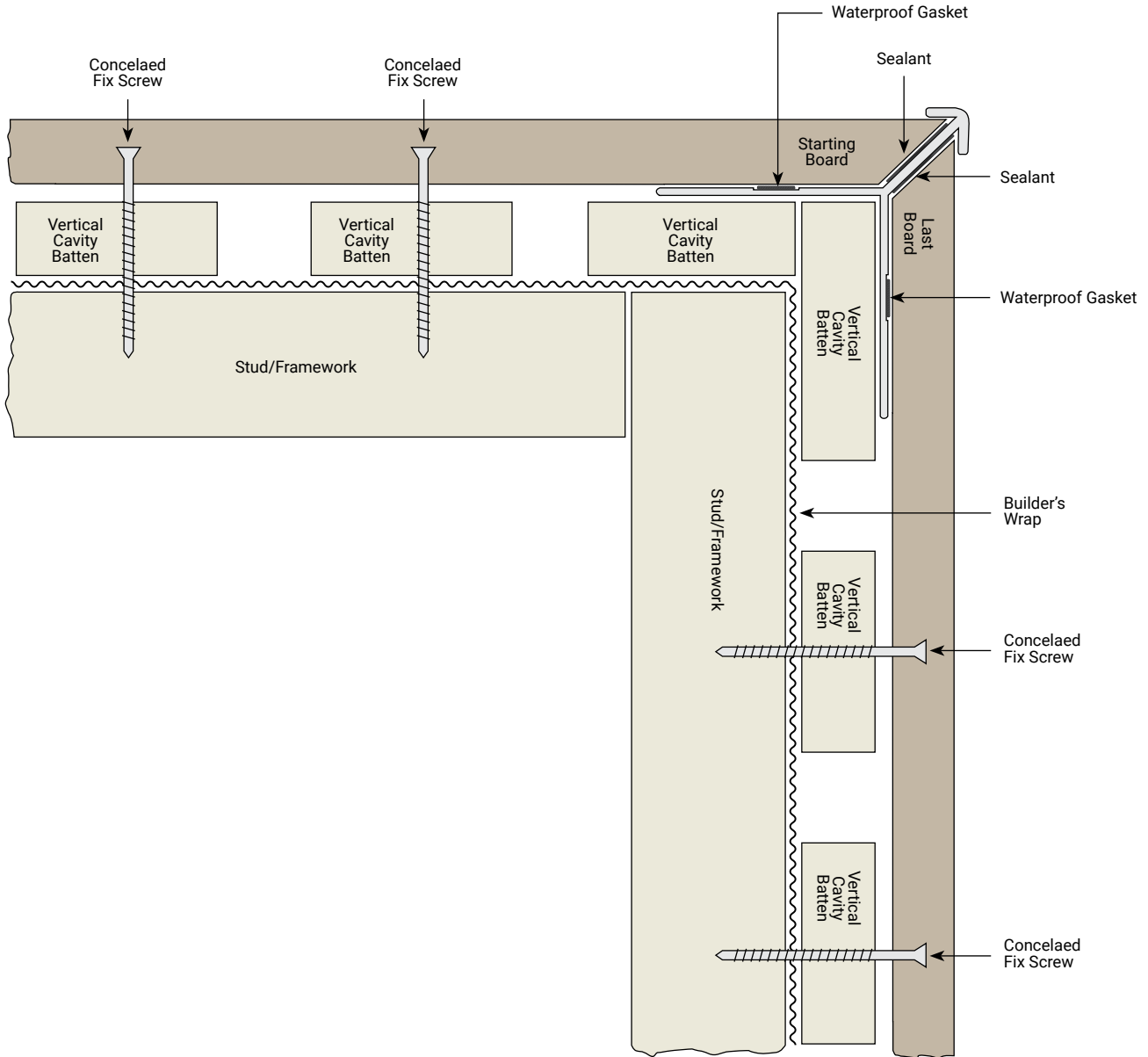
**DIAGRAM 9**



A minimum 600 mm spacing between end joints of adjacent rows is recommended to maintain a natural and visually pleasing appearance. Avoid step patterns where possible.

# Horizontal Installation

**DIAGRAM 10**

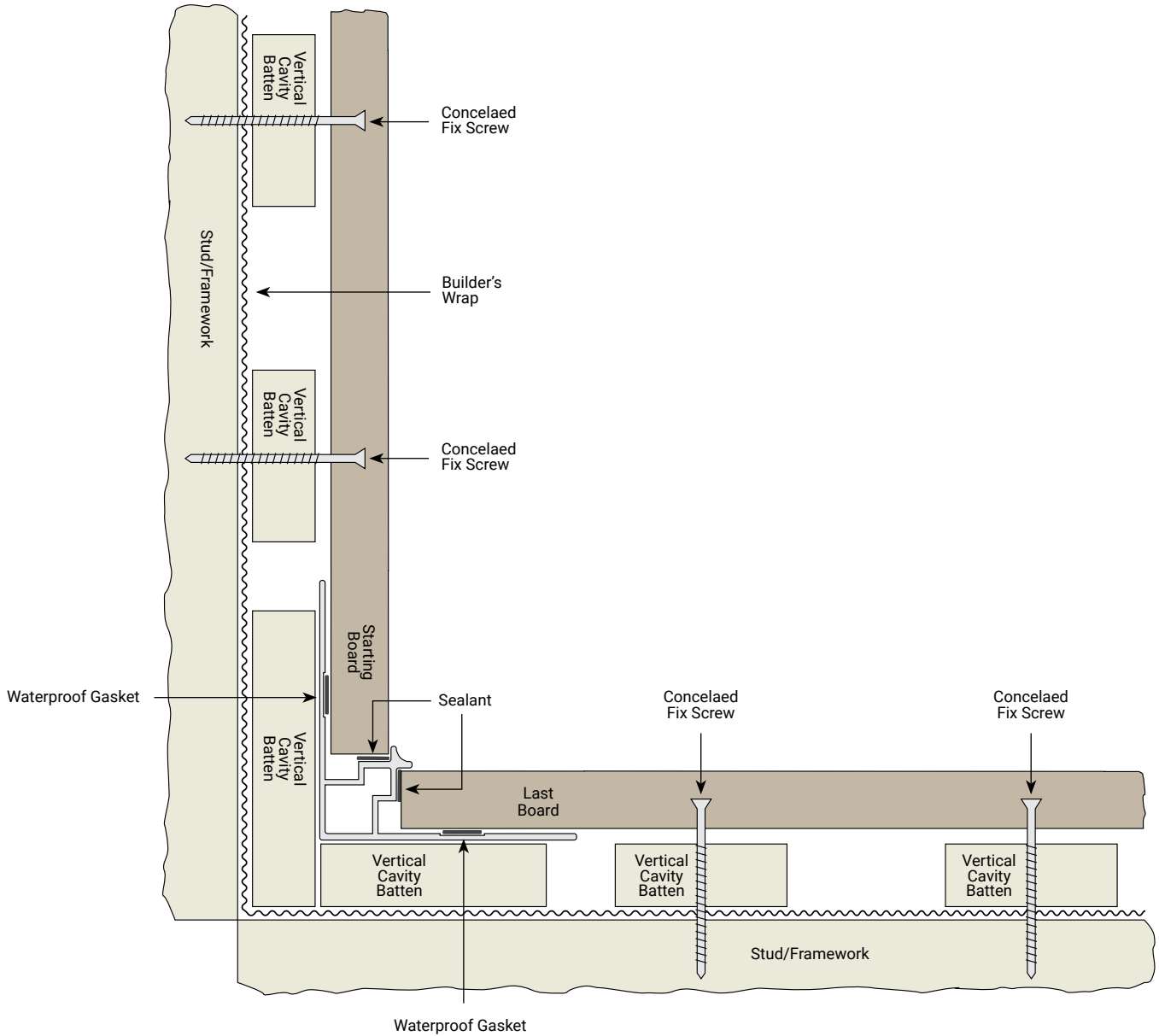


**Aluminium External Corner Stop  
(install prior to cladding)**

- a. Screw the trim to the studs as per diagram 2. Screw Size: 10g x 45mm.
- b. Apply a bead of sealant where noted; ensure enough sealant is used to create a moisture barrier. Scrap excess sealant off once dry.
- c. End of cladding boards edge will need to be mitred.
- d. Face fix bottom edge of starting board through to stud with tongue facing up.
- e. Engage next board ensuring not to push board past the locator ridge. Pre-drill and screw the board on a slight angle back towards the board using the screen locator line as a guide.
- f. Rip last board to fit and face fix.

# Horizontal Installation

**DIAGRAM 11**

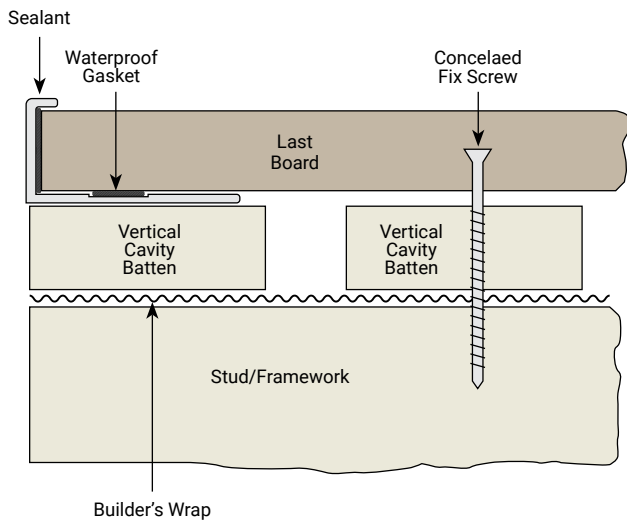


**Aluminium Internal Corner Stop  
(install prior to cladding)**

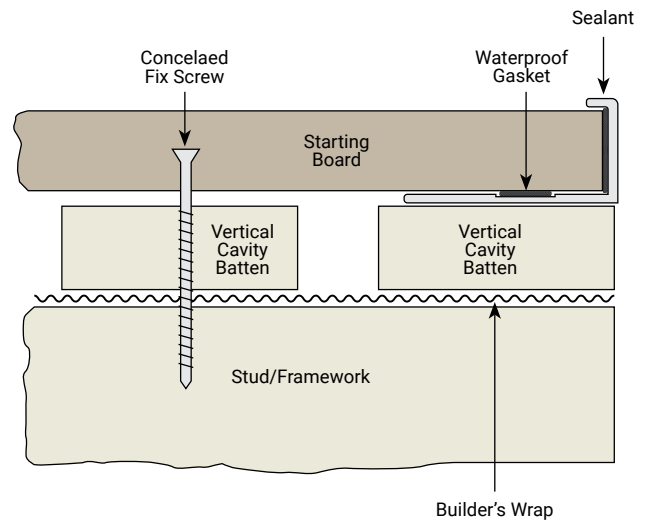
- a. Screw the trim to the studs as per diagram 2. Screw Size: 10g x 45mm.
- b. Apply a bead of sealant where noted; ensure enough sealant is used to create a moisture barrier. Scrap excess sealant off once dry.
- c. End of cladding boards edge will need to be mitred.
- d. Face fix bottom edge of starting board through to stud with tongue facing up.
- e. Engage next board ensuring not to push board past the locator ridge. Pre-drill and screw the board on a slight angle back towards the board using the screen locator line as a guide.
- f. Rip last board to fit and face fix.

# Horizontal Installation

**DIAGRAM 12-A**



**DIAGRAM 12-B**



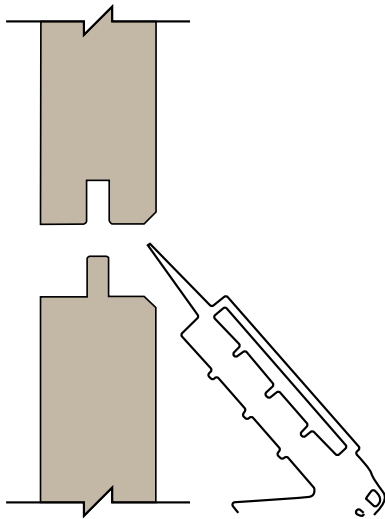
## **Aluminium End Stop L (install prior to cladding)**

- a. Screw the trim to the studs as per diagram 2. Screw Size: 10g x 45mm.
- b. Apply a bead of sealant where noted; ensure enough sealant is used to create a moisture barrier. Scrap excess sealant off once dry.
- c. End of cladding boards edge will need to be mitred.
- d. Face fix bottom edge of starting board through to stud with tongue facing up.
- e. Engage next board ensuring not to push board past the locator ridge. Pre-drill and screw the board on a slight angle back towards the board using the screen locator line as a guide.
- f. Rip last board to fit and face fix.



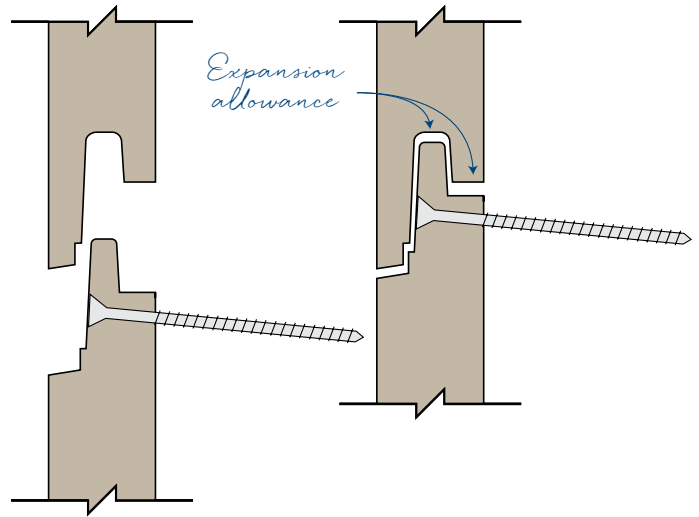
# Horizontal Installation

**DIAGRAM 13**



Continue installing the boards from the starter board. ! *Tip: A light tap with a rubber mallet can help engage longer boards.* Check the integrity of each board prior to installation. The Automatic Spacing System will provide the correct expansion allowance, as shown in Diagram 1. Follow the increment markings to ensure a level line is maintained.

**DIAGRAM 14**



A minimum 600 mm spacing between end joints of adjacent rows is recommended to maintain a natural and visually pleasing appearance. Avoid step patterns where possible.

# Completion

Once the installation is complete, install permanent capping immediately where necessary to maintain a dry space behind the cladding.

Ensure any gaps are sealed with a reputable, high-grade joint sealant.

Inspect all perimeters, corners and intersections with other fixtures to ensure that the cladding solution is weather tight and appropriate ground clearance has been provided.

Disposal of waste products should be in accordance with local council requirements and manufacturers' guidelines.

## **Coating**

If the cladding is to weather naturally, apply a reputable and high quality Tannin/Oil Remover to avoid tannins leaching from the wood.

Alternatively, apply the 2nd coat of finish (and any subsequent coats in accordance with the coating manufacturer's instructions). Note, that a coated finish is recommended and will be expected to prolong the life of the product.

This product is generally not painted, however, if a painted finish is selected, avoid using dark colours, as this can cause excessive shrinkage and splitting.

# Maintenance

Regular inspection and maintenance is necessary to ensure optimum performance and longevity. An appropriate person should inspect the cladding solution annually, with any damage or potential risk to the water tightness of the walls assessed and rectified.

Regular cleaning with a soft brush, warm water and an approved cleaning detergent will help maintain the cladding's appearance and will assist with removing the build up of mould or other organic material.

The cladding solution should be recoated periodically in accordance

with the coating manufacturer's instructions, noting that walls exposed to higher levels of direct sun, wind and rain may wear more prematurely than others that are protected.

Maintenance is the responsibility of the building owners.

# Other Reference Documents

**The following documents should be read in conjunction with this guide:**

- » New Zealand Standard 'Timber framed buildings – NZS 3604:2011' ([www.building.govt.nz](http://www.building.govt.nz)).
- » New Zealand Standard 'Specification for profiles of weatherboards, fascia boards, and flooring – NZS 3617:1979' ([www.building.govt.nz](http://www.building.govt.nz)).
- » Verification Methods E2/VM1 and Acceptable Solutions E2/AS1, E2/AS2 and E2/AS3 ([www.building.govt.nz](http://www.building.govt.nz)).
- » BRANZ Bulletin BU411 (April 2001) Recommended timber cladding profiles ([www.branz.co.nz](http://www.branz.co.nz)).
- » BRANZ Bulletin BU468 (December 2005) Fixing Timber Weatherboards ([www.branz.co.nz](http://www.branz.co.nz)).
- » BRANZ (May 2015) Good Practice Guide: Timber Cladding ([www.branz.co.nz](http://www.branz.co.nz)).
- » Department of Building and Housing (DBH) June 2006. Constructing Cavities for Wall Claddings ([www.building.govt.nz](http://www.building.govt.nz)).

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**Tauranga**

50 Hull Road  
Mt Maunganui, New Zealand 3150  
PO Box 4401, Mt Maunganui South,  
New Zealand 3149  
Phone: 07 575 7685  
Email: [tgasales@hurfordwholesale.co.nz](mailto:tgasales@hurfordwholesale.co.nz)  
Website: [www.hurfordflooring.co.nz](http://www.hurfordflooring.co.nz)

**Auckland**

Hurford Flooring Showroom  
Unit 11/18 Corinthian Drive,  
Albany, AUCKLAND 0632  
BY APPOINTMENT ONLY  
Phone: 0800 HURFORD (0800 4873673)  
Email: [info@hurfordflooring.co.nz](mailto:info@hurfordflooring.co.nz)  
Website: [www.hurfordflooring.co.nz](http://www.hurfordflooring.co.nz)

