

Installation guide for

EXTERNAL
TIMBER
CLADDINGS

manufactured by
Australian Sustainable Hardwoods Pty Ltd
(ASH)



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INTRODUCTION

What are ASH's external timber claddings?

The ASH range of external timber claddings and battens are the utilisation of ASH's attractive and high performing internal timber species combined with a deep penetrating, water-based, clear, treatment to provide a 25-year guarantee of protection from decay and termites when exposed to full weather exposure. This external range of timbers uniquely enables users to visually match with ASH's range of internal timber species for a consistent flow of timber design - from inside to out.

Purpose of this guide?

The details within this guide provide instructions on how to best install and protect these products in their applications.

The NCC performance requirements stipulate that an external wall (including openings around windows and doors) must prevent the penetration of water that could cause:

- (a) unhealthy or dangerous conditions, or loss of amenity for occupants; and
- (b) undue dampness or deterioration of building elements.

This guide addresses these requirements. It is intended for use by professional installers and experienced DIY'ers.

Why use an Australian manufacturer?

Being owned and manufactured in Australia provides certainty in compliance as timber is made in accordance with the following Australian Standards and procedures. This often-overlooked benefit ensures products are fit for Australian construction.

- Machined to AS 2796 – *Timber – Hardwood – Sawn and milled products*.
- H3 treated to AS 1604 – *Specification for preservative treatment*.
- Finger jointed or laminated to AS 1328 – *Glue laminated structural timber*.
- Visually graded to AS 2082 – *Timber – Hardwood – Visually stress-graded for structural purposes*.
- Third party verified:
 - sustainable to AS 4707 – *Chain of Custody for forest-based products*.
 - compliant to ISO 14001 – *Environmental Management System*
 - compliant to ISO 45001 – *Occupational Health & Management System*.
- Goods are governed by Australian Consumer Law.
- For an up-to-date list of our commitments and benefits, please visit ash.com.au/our-difference/.

Other relevant documents

This document is designed to be read in conjunction with the following ASH guides and advice:

- [IronAsh](#) and [IronOak](#) brochures
- [Tru-Core 'H3 Azole' Warranty](#)
- [IronAsh](#) and [IronOak](#) User Design Guides
- Spax '[Smarter Façade Solutions](#)' document

Installers note

As with all external timber products, it is essential that installation is conducted to a professional standard. Long term performance of the external timber is greatly influenced by, and is the responsibility of, the installer. Ongoing care, maintenance and longevity shall be the responsibility of the occupants.

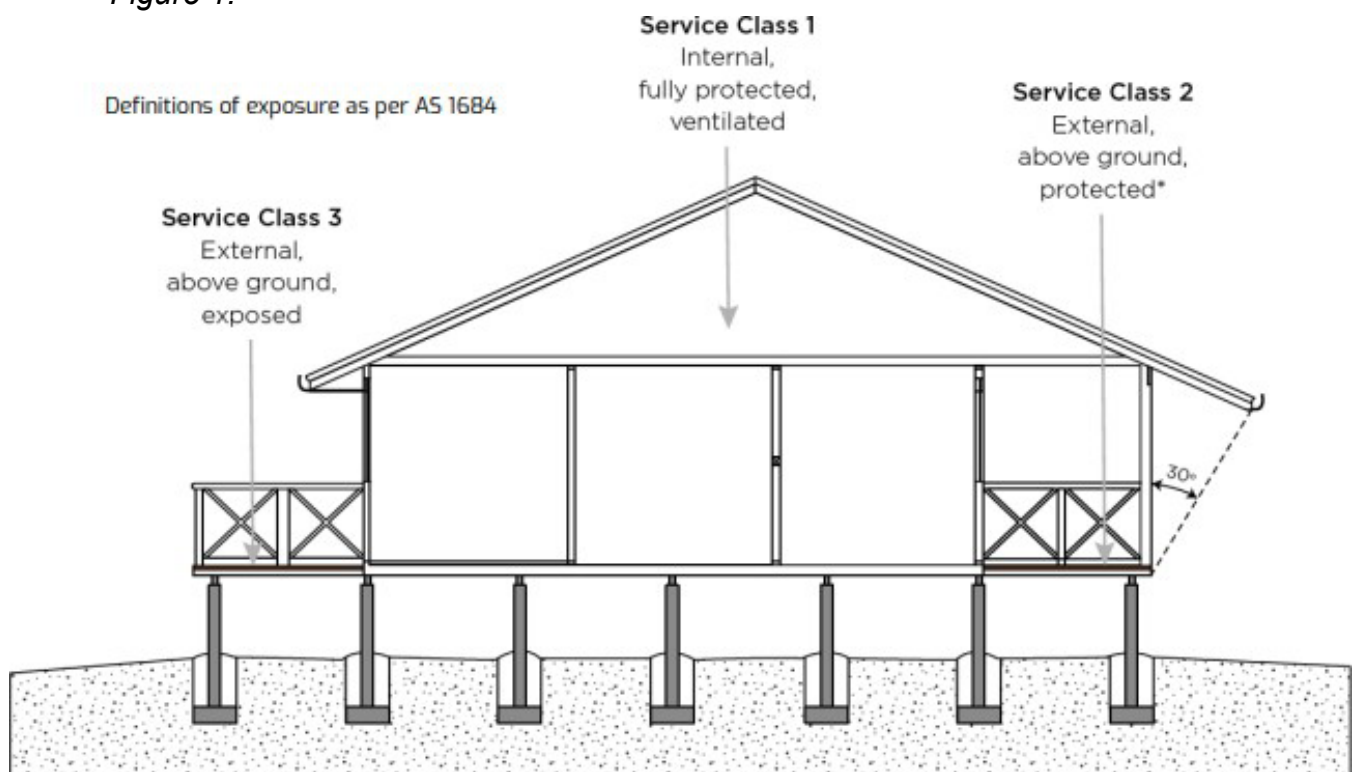
EXTERNAL CLADDING PROFILES

For a current list of external cladding profiles, available species and grades, visit ash.com.au/application/timber-cladding/

PREPARATION

- Good building design will help ensure long term performance of claddings and the building in general.
- Use roof overhangs to achieve Service Class 2 (see Figure 1 below) wherever possible to help limit full weather exposure and to extend longevity.

Figure 1.



* External timbers are regarded as protected in AS 1684 if they are covered by a roof projection (or similar) at 30° to the vertical and they are well detailed and maintained (coated and kept well ventilated).

- Strategically placed flashings that are designed to allow safe water runoff from around openings and intersections must be implemented (see Figure 2).
- A minimum clearance of 100mm above pavement (or >300mm above earth) needs to be employed to reduce splash back and staining from rainfall while providing a clearance for ant inspection.
- The ground shall slope away from the building (see Figure 3 and refer to the NCC for minimum slope requirements).
- H3 treatment provides pathways for users to install timber in external environments with or without a protective coating (see Tru-Core Warranty for impacts).
- If no coating is applied, the timber will be subject to movement in service at a faster rate, grey-off faster, check and split more quickly (none of these are cause for complaint) but will not be subject to decay and termites within the terms stipulated within the Tru-Core Warranty.
- Surface checking will eventuate in external timber and is part of the feature.
- Coating is your first line of defence against UV degradation, movement in service, issues relating to movement, and visual signs/impacts of timber aging. To limit these, adequate quality coating (on all sides) is required, along with a robust maintenance regime.
- H3 treated boards are supplied uncoated, unless otherwise agreed. If coating, pre-coat/prime all faces and edges of the timber boards prior to installation (speak to your ASH specialist to arrange pre-priming service).
- Temporary storage of timber is to be in accordance with the IronAsh and IronOak Design Guides
- Temporary flashing will be required if rainfall is expected during installation. Preventing cavities from excessive moisture behind the cladding is essential to prevent moisture issues, such as movement in service or mould.
- Ensure that the frame is straight and flush and engineered for the weight and purpose of timber cladding.
- Install vapour permeable sarking in accordance with manufacturers' recommendations.
- Determine intended orientation of cladding.
- Determine trims and edge details to be utilised at corners and junctions. Have trims available.
- Measure and record the width of boards before installation. Pressure treatment will impact board widths by up to 2% of cover width. Dimensional movement in service is expected due to variation in environmental factors.
- Understand moisture content of the timber supplied by measuring with a capacitance moisture meter (or by oven-dry method for most accurate results). Determine the long-term moisture variation of the intended environment and learn the 'movement in service' expected for the chosen timber species cover width.

(Movement in service specific to each species can be found on the ASH website). An allowance for movement between boards should be made in line with the predicted changes to moisture content and subsequent impact on cover width.

- Use a storey rod to mark out board increments and ensure boards are installed to alignment.

REQUIRED HARDWARE AND MATERIALS

- ASH timber cladding profiles.
 - Typically allow >10% for offcuts. Allow more for non-orthogonal walls or diagonal installation.
- Henkel PUR glue (available from ASH or Henkel resellers)
- Spax screws (available from ASH or Spax distributors).
 - Screw types, as listed in Tables 1 & 2.
- Sikaflex silicone types (available from retail stores).
- Cavity battens (Available at ASH. >42 x 32 hardwood battens. Or >70 x 35 pine available from retail stores).
 - Plus, if horizontally fixing, 65 x 10 cavity batten or 5mm packers
- Corner junction waterproof flashing.
- Vapour permeable sarking.

NOTE: Do not use steel top hats in place of cavity battens. metal swarf from cutting and drilling oxidises and stains freshly treated timber.

INSTALLATION PROCESS

Vertical Installation

See Figure 4.

- Over sarking, either:
 - vertically fix >65 x 10mm cavity battens in line with studs using a framing gun and fixing to a maximum of 450mm centres. Or
 - install >5mm packers on studs at a maximum 450mm centres. (see figure 4)
- Horizontally install >42 x 32mm ASH structural cavity battens (or >70 x 35 structural pine) by fixing through cavity batten into the frame with SPAX 5x80 A2 CS P/T or 6x80 A2 CS P/T screws, to a maximum of 450mm centres.
(note: ASH hardwood structural battens are stronger, straighter and have superior retention properties – making them preferred to softwoods). Do not use steel top hats.
- Install flashings and waterproofing corners around windows, doors and other openings in line with manufacturers recommendations.
- Install corner and junction trims, straight and true.
- To install cladding, if using an end matched profile, ensure that the tongue is facing upward in the first installed board. This is to provide a pathway for any trapped moisture to escape during service life. Install in a brickwork patten so that end

- matched boards in one row do not align with end matched boards of the next row.
- f. For a neat result, it is recommended that the wall first be measured between corner junctions and that the cladding boards on both ends be ripped to their required width so that they neatly and evenly fit within the pre-attached trims and junctions.
 - g. The first board is to be installed straight and true, on the side of the wall with the tongue facing the yet to be clad wall - so that the groove of the next board can be slipped over.
 - h. Cladding must be installed with enough spacing to allow for expansion. Do not cramp boards tight.
 - i. Cladding should overhang slightly at bottom edge and be cut at a ~15 degree angle to allow a dripline. Boards must not be installed within 100mm of the pavement. (see Figure 3).
 - j. Utilise the correct Spax screws for the intended application. (See Tables 1 & 2).
 - k. All docked ends are to be sealed.

Horizontal Installation

See Figure 5.

- a. Over sarking, vertically install >42 x 32mm ASH structural cavity battens (or >70 x 35 structural pine) by fixing to every stud in the frame with SPAX 5x80 A2 CS P/T or 6x80 A2 CS P/T screws, to a maximum of 450mm centres. (note: ASH hardwood structural battens are stronger, straighter and have superior retention properties – making them preferred to softwoods). Do not use steel top hats.
- b. Install flashings and waterproofing corners around windows, doors and other openings in line with manufacturers recommendations.
- c. Install corner and junction trims, straight and true.
- d. To install cladding, the first board is to be installed at the bottom edge, straight and true, with the tongue facing upward. This is to provide a pathway for any trapped moisture to escape during service life.
- e. For a neat result, it is recommended that the wall height first be measured and that the cladding boards on either top or bottom be ripped to their required width so that they neatly and evenly fit within the required wall height.
- f. The first board is to be installed with the end match tongue facing outward so that the groove of the next board can slip over the tongue. Install in a brickwork pattern so that end matched boards in one row do not align with end matched boards of the next row.
- g. Cladding must be installed with enough spacing to allow for expansion. Do not cramp boards tight.
- h. Cladding should overhang slightly at bottom edge to allow a dripline but must not be installed within 100mm of the pavement. (see Figure 3).
- i. Utilise the correct Spax screws for the intended application. (See Tables 1 & 2).
- j. All docked ends are to be sealed.

Secret Fixing Cladding

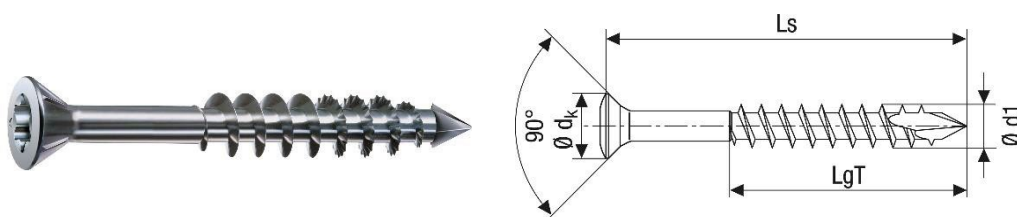


Pre-drill a 2.5mm diameter hole for hardwood boards and hardwood substructures. When fastening hardwood boards to a pine substructure, only the hardwood boards should be pre-drilled.

Ensure screw spacings are according to the National Building Codes.

Using a T-STAR plus T-15 drive bit, drive the screw through the board and into the timber joist. Minimum penetration depth into the joist is 30mm.

The head of the screw can be countersunk to be level with the surface of the board.



SPAX façade screw with very small head stainless steel A2 / 304

| Thread \varnothing d1 | Length total L_s | Min/Max Board Thickness at fixing point | Length partial thread L_{gT} | Bit size T | SPAX Box qty (pieces) | SPAX No. |
|---------------------------------|-----------------------|--|--------------------------------------|---------------|-----------------------------|---------------|
| 4.0 | 45 | 9 - 15 | 29 | 15 | 100 | 0467000400453 |
| $\varnothing dk = 6.0\text{mm}$ | | | | | | |

Table 1

Face Fixing Cladding



Choose the correct screw size from table below according to board thickness.

Pre-drilling with a SPAX countersinking tool #5001000351005 is required for hardwood boards and hardwood substructures. When fastening hardwood boards to a pine substructure, only the hardwood boards should be pre-drilled.

Ensure screw spacings are according to the National Building Codes

Using a T-STAR plus T-20 drive bit, drive the screw through the board and into the timber joist. Minimum penetration depth into the joist is 30mm.

The head of the screw can be countersunk to be level with the surface of the board thanks to the milling ribs under the screw head.



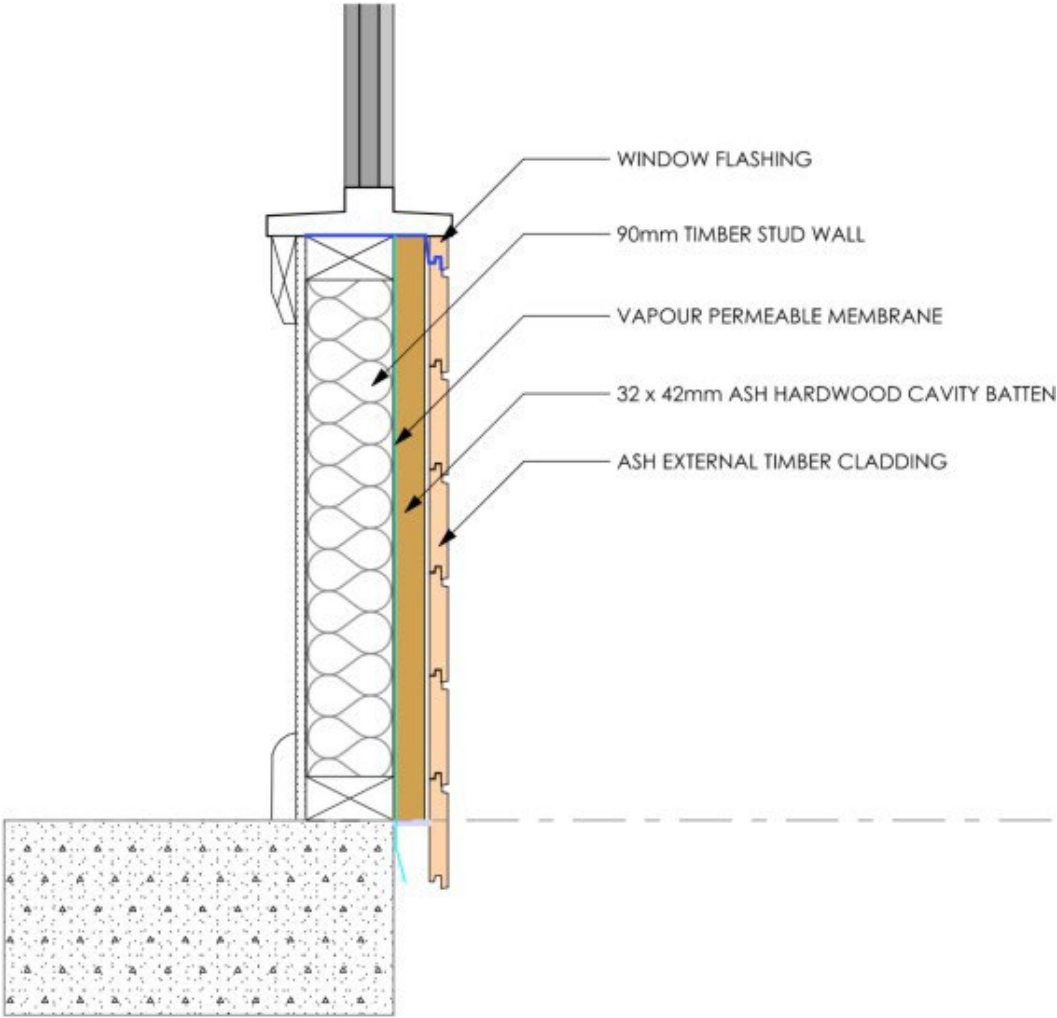
SPAX façade screw with double thread

Stainless steel A2/304 antique

| Thread \varnothing d1 | Length total Ls | Min/Max Board Thickness at fixing point | Length partial thread LgT | Bit size T | SPAX Box qty (pieces) | SPAX No. |
|--|--------------------|---|------------------------------|---------------|--------------------------|---------------|
| 4.5 $\varnothing d_k = 8.0\text{mm}$ | 43 | 11 - 13 | 18 | 20 | 500 | 4547140450439 |
| | 50 | 14 - 20 | 21 | 20 | 200 | 4547140450509 |
| | 60 | 21 - 30 | 26 | 20 | 100 | 4547140450609 |
| | 70 | 31 - 40 | 31 | 20 | 100 | 4547140450709 |

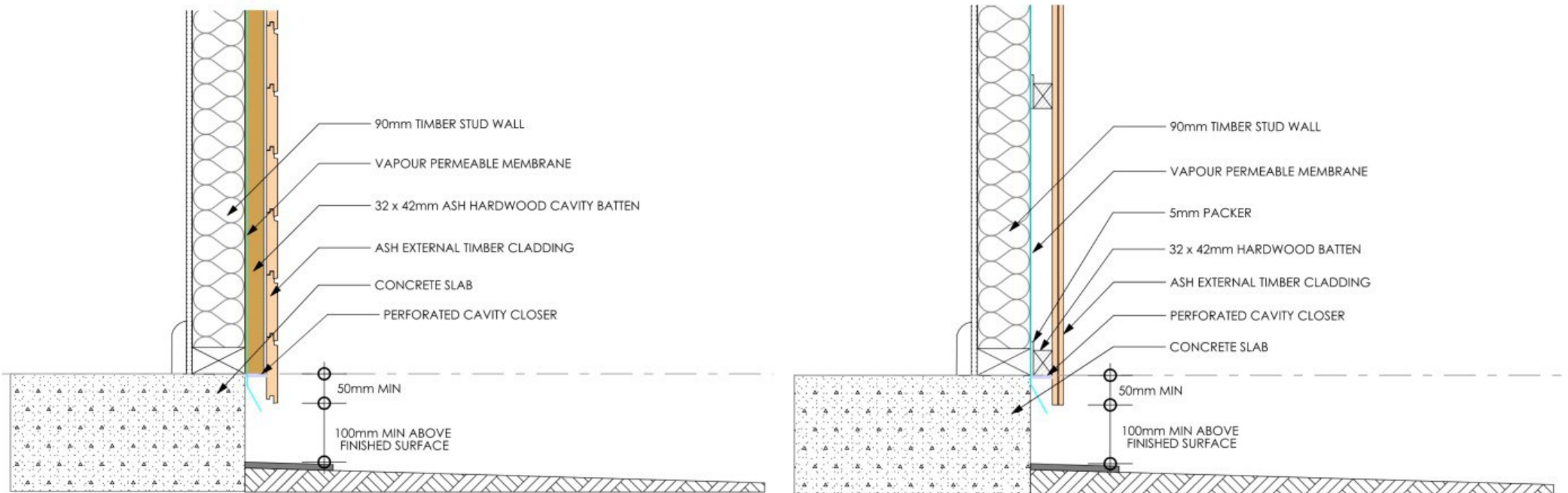
Table 2

Figure 2.



FLASHING AROUND WINDOWS

Figure 3.



**BOTTOM EDGE DETAIL-
HORIZONTAL CLADDING**

**BOTTOM EDGE DETAIL-
VERTICAL CLADDING**

Figure 4

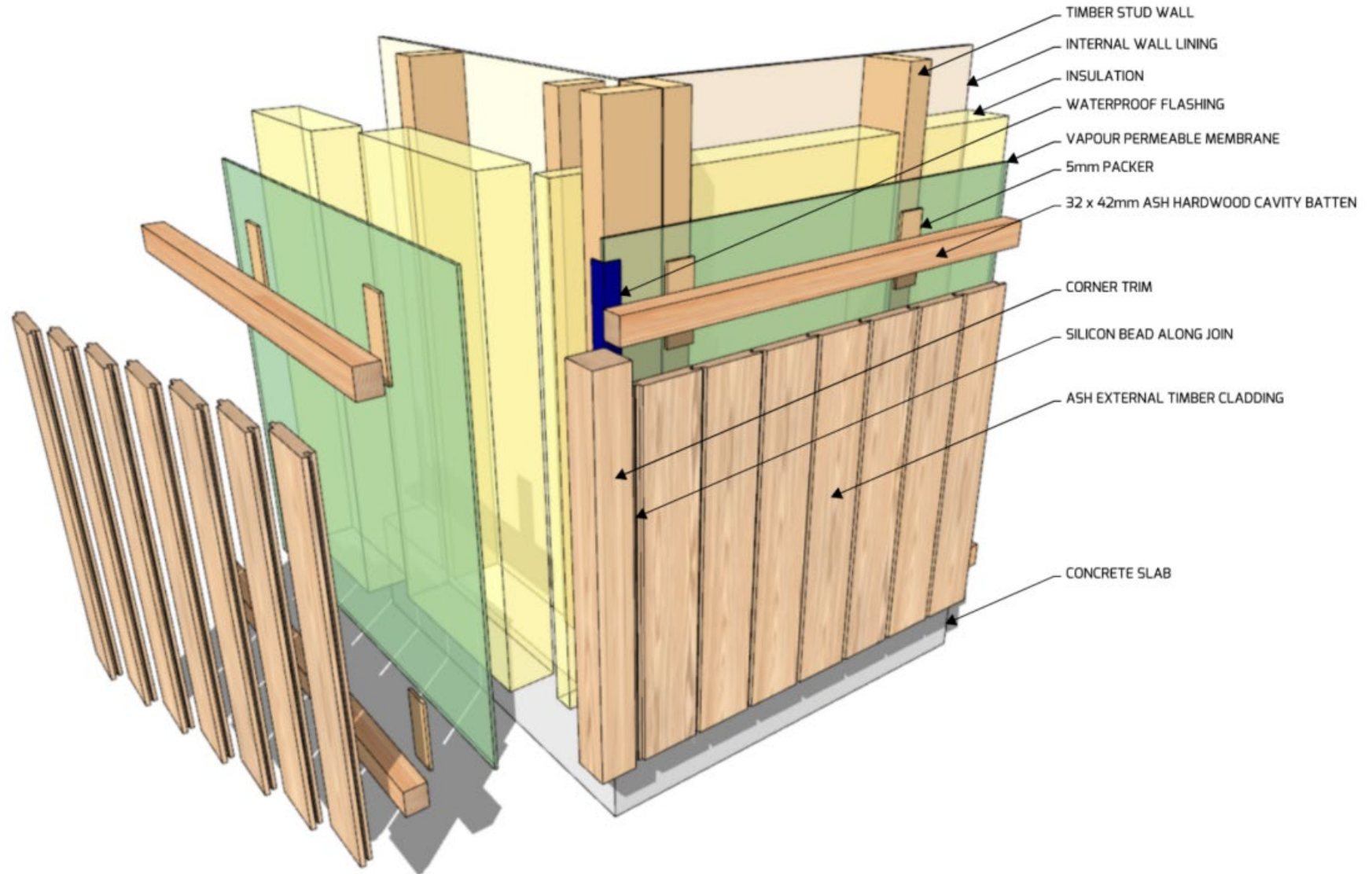


Figure 5

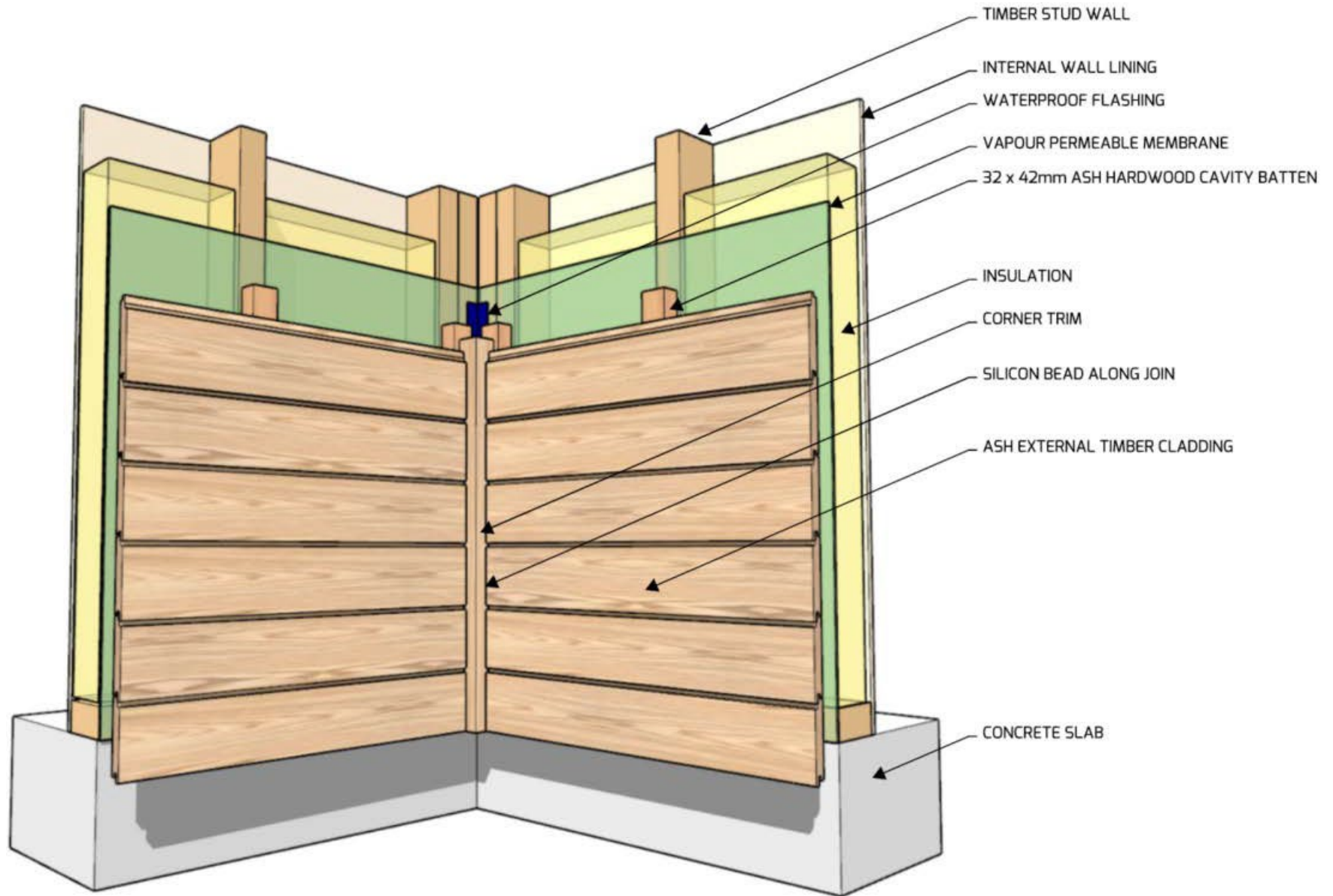
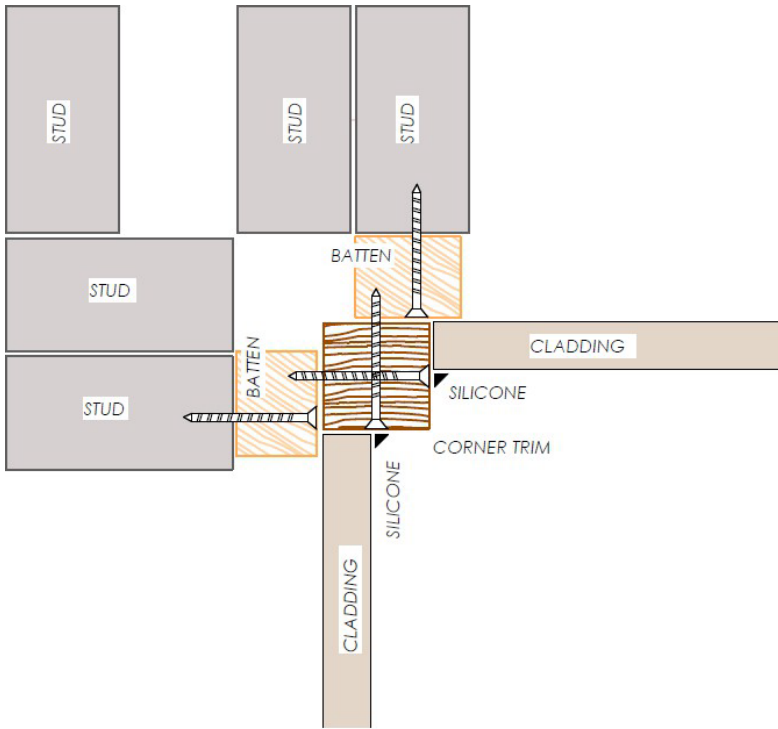
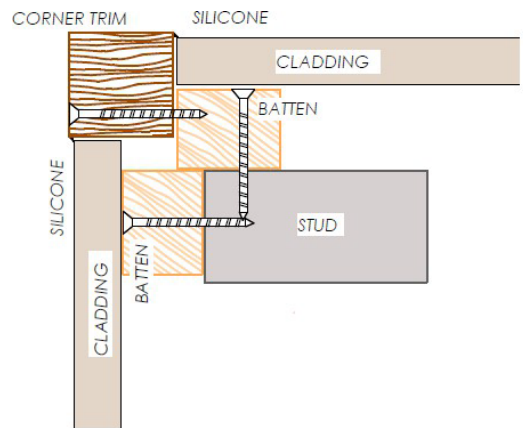


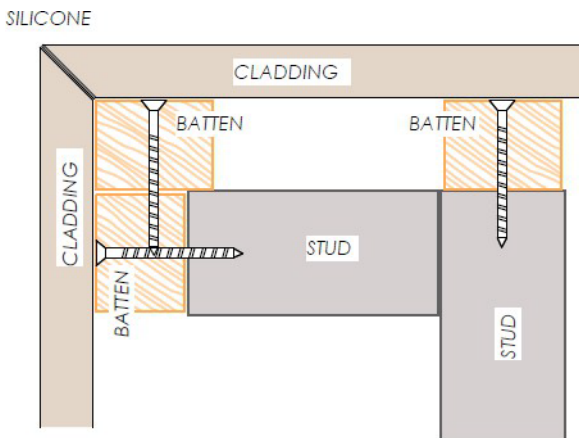
Figure 6.



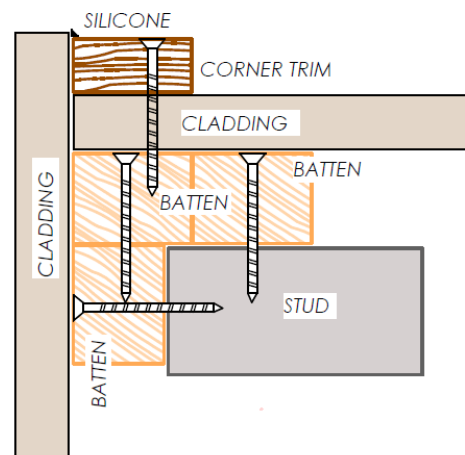
RETURN CORNER DETAIL- A



EXTERNAL CORNER DETAIL- A



EXTERNAL CORNER DETAIL- B



EXTERNAL CORNER DETAIL- C

CONTACT INFORMATION



Australian Sustainable Hardwoods Pty Ltd
ACN 151 841 431

PO Box 268
4 Weir Road, Heyfield
Victoria, Australia 3858
03 5139 7000
enquiries@ash.com.au