Installation guide for

INTERNAL TIMBER LINING

manufactured by
Australian Sustainable Hardwoods Pty Ltd
(ASH)

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INTRODUCTION

What are ASH's internal timber linings?

ASH internal timber lining boards are precision-machined hardwood products designed for feature wall and ceiling applications. This product, with its natural beauty and durability, is produced from the same high-grade timber that valuable furniture is manufactured from, adding warmth and value to homes, commercial, and public buildings. Manufactured using sustainably grown hardwoods, they are kiln-dried and profiled for efficient installation.

ASH offer two distinct lining profiles:

- **Lining** – utilising traditional, face-fix profiles with square, plain ends (*see figures 1 & 2)*.
- **Secret fix lining** – utilising modern, secret fix profiles that are reversible and end matched *(see figures 3 & 4).*

This range of profiles uniquely enables users to visually match with ASH's range of internal and external timber species for a consistent flow of timber design, from inside to out. Both profiles are referenced within this document.

Purpose of this guide?

This guide provides instructions for correct installation to maximise performance, appearance, and service life. 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 below 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.*
- 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:

- AS 1684 – Residential Timber Framed Construction
- AS 1720 – Design Methods for Timber Structures
- AS 4055 – Wind Loads for Housing
- Chosen coating providers recommendations

Installers note

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

LINING PROFILES

For an updated list of profiles, available species and grades, visit ash.com.au/application/lining/

STORAGE, HANDLING AND MOISTURE CONTROL

Delivery and protection

ASH, and our network of distributors, can deliver packs of lining to location, wrapped in plastic or by other arrangement. Packs will require a forklift, crane, or hand unload on site. It is essential that lining be protected from weathering - which can occur quickly. Carefully store lining once delivered to prevent damage or surface marks.

Storage

ASH lining products need to be stored in a clean, safe and dry area. Protected from all direct weather. If lining is not used immediately, dunnage should be used to support packs. Dunnage needs to be evenly spaced to supply adequate support and airflow. If a dry place is not available, the timber shall be protected with a temporary wrapping. Dunnage should allow for drainage underneath. At all times the lining boards require air circulation whilst protected from moisture.

REQUIRED HARDWARE AND MATERIALS

- ASH timber lining profiles.
    - Typically allow >5% for offcuts in ‘secret fix lining’ or >10% in ‘lining’. Allow more for non-orthogonal or diagonal installations.

- 42 x 32mm ASH structural cavity battens, if using (or other suitable battens).
- Bostik Ultraset adhesive or similar.
- 35mm, 16-gauge galvanised brads or equivalent (fix into studs/battens).
- Trims/skirting/aluminium edging as required.
- Spirit level, measuring tape, chalk line, nail gun, mitre saw.

PREPARATION

- Ensure that walls and ceilings are flat, clean, square and free from moisture ingress.
- Batten/stud spacing should not exceed 600mm centres in walls, 450mm in ceilings.
- Determine intended orientation of lining.
- Determine trims and edge details to be utilised (i.e. at corners and junctions). Have trims available.
- Measure and record the cover-width of boards before installation.
- 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 temperature and humidity for the intended environment and learn the ‘movement in service’ expected for the chosen timber species. (Movement in service specific to each timber can be found on the ASH website).
- An allowance should be made in line with the predicted changes to moisture content and subsequent impact on cover width.
  (Note: secret fix linings have a mark indicating where boards are to be aligned. It is up to the installer to understand whether this adequately allows for intended expansion or contraction resulting from acclimatisation with long-term environment).
- If necessary, use a storey rod to mark out board increments and ensure boards are installed to alignment.
- If installing in an alfresco area, on garage doors, in bathrooms, or other higher moisture environments, it is also recommended that:
  - boards be protected from direct rain and wind-driven moisture.
  - boards be precoated on all faces and ends before installation.
  - stainless or corrosion-resistant fasteners be utilised.
- For installation in alfresco areas prone to high-wind (N4 or above, per AS 4055 or AS 1684) installers must ensure that:
  - maximum batten spacing of 450mm centres is strictly adhered to in all installations.
  - fasteners meet withdrawal requirements for the sites wind classification.
- Additional fixings or structural considerations may be required in cyclonic regions. Always refer to AS 1684 and consult a building professional if unsure about wind exposure or fixing adequacy in your application.
- Inspect and arrange boards prior to installation to ensure an aesthetically pleasing layout. Do not install boards that you believe are damaged or outside of the specified grade.

INSTALLATION PROCESS

Horizontal Wall Installation

a. Board width calculation: to achieve symmetry in the first and last boards, calculate the number of full boards across the width of the wall. Subtract required expansion allowances from total width, then divide the leftover amount to determine even starter and end board sizes.
    i. Note: it may be preferred to align boards with electrical fittings, etc. If so, measure wall and ensure first board is cut to desired width.
b. Starting point: begin at the bottom, correct edge facing up (*see figures 1 - 4*).
c. Mechanically face fix first and last boards into position *(see figures 5 & 6).*
d. Expansion gap: 2mm at either side of walls
    i. **Important note:** if all individual boards installed do not allow for adequate expansion and contraction, a 10mm expansion gap must be allowed for along the top and bottom of wall (covered later by skirting).
e. Adhesive application:
    i. On plasterboard/solid walls: apply an “S” bead to back of each board (*see figure 6*)
    ii. On battens/studs: apply a bead along each fixing line (*see figure 5*).
f. Fixing:
    i. For ‘secret fix lining’:
        a. Do not push boards past locator ridge or otherwise determined location.
        b. Nail through covered tongue edge (or underside of groove for VJ profile) at max 600mm centres into studs/battens *(see figures 3 & 4).*
    ii. For traditional ‘lining’:
        a. Do not cramp boards tight. Allow 2mm expansion or otherwise determined expansion.
        b. Nail through face at max 600mm centres into studs/battens *(see figures 1 & 2).*
g. Level checks: line boards with pre-marked lines or with use of a spirit level.
h. Top row: rip to fit if needed.

Vertical Wall Installation

a. If using battens**:** install horizontal 42×32mm ASH battens (or similar) to studs at max 600mm centres.
b. Board width calculation: to achieve symmetry in the first and last boards, calculate the number of full boards across the width of the wall. Subtract required expansion allowances from total width, then divide the leftover amount to determine even starter and end board sizes.
    i. Note: It may be preferred to align boards with electrical fittings, etc. If so, measure wall and ensure first board is cut to desired width).
c. Starting point: begin with ripped board, tongue facing out.
d. Mechanically face fix first and last boards into position *(see figure 7).*
    i. **Important note:** if all individual boards installed do not allow for adequate expansion and contraction, a 10mm expansion gap must be allowed for along each side of wall (covered later by skirting).
e. Expansion gaps: 2mm at ceiling and floor.
f. Adhesive application:
    i. On plasterboard/solid walls: apply an “S” bead to back of each board (*see figure 6*).
    ii. On battens/studs: apply a bead along each fixing line (*see figure 7*).
g. Fixing:
    i. With ‘secret fix lining’:
        a. Do not push boards past locator ridge or otherwise determined location.
        b. Nail through covered tongue edge (or underside of groove for VJ profile) at max 600mm centres into studs/battens *(see figures 3 & 4).*
    ii. With traditional ‘lining’:
        a. Do not cramp boards tight. Allow 2mm expansion or otherwise determined movement.
        b. Nail through face at max 450mm centres into studs/battens *(see figures 1 & 2).*
h. Alignment: line boards with pre-marked lines or with use of a spirit level.
i. Finishing: end with cut board (groove side).

Ceiling Installation

Refer to horizontal wall installation guide.

a. If using battens**:** install 42×32mm ASH battens (or similar) perpendicular to board run at max 450mm centres.
b. Board width calculation, and remaining advice: As per vertical wall method above.

FINISHING

a. If 10mm expansion joints were used, cover expansion gaps with skirting, trims or strips.
b. Exposed ends can be encapsulated with other boards, trims, caulking, or timber boards.
c. Fill any exposed nail holes with matched wood filler.
d. Finish lining boards by lightly sanding and coating with an adequate coating suited to the chosen environmental application.

APPENDIX

Figure 1 – Fixing location for face fixed regency profile

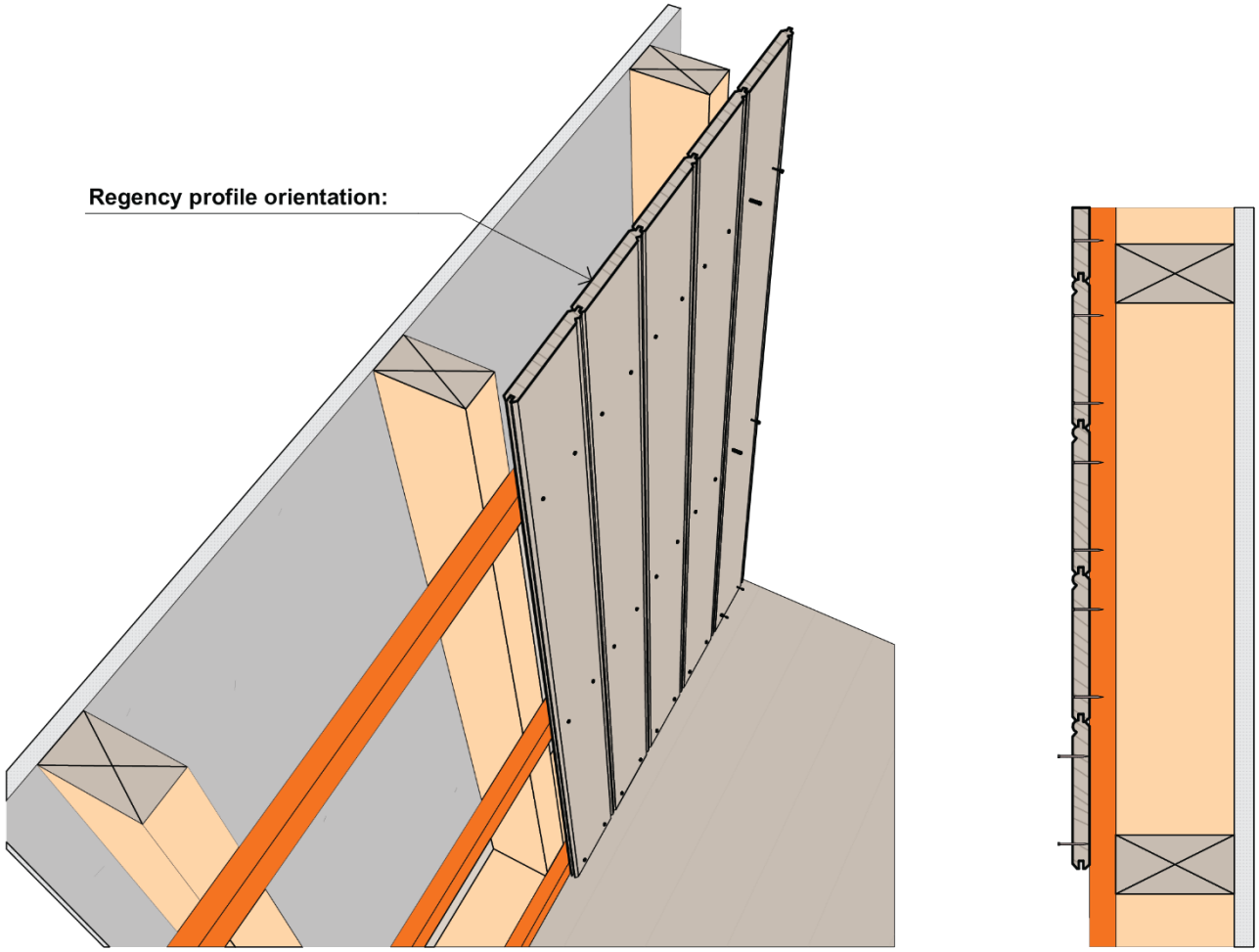


Figure 2 – Fixing location for face fixed VJ profile

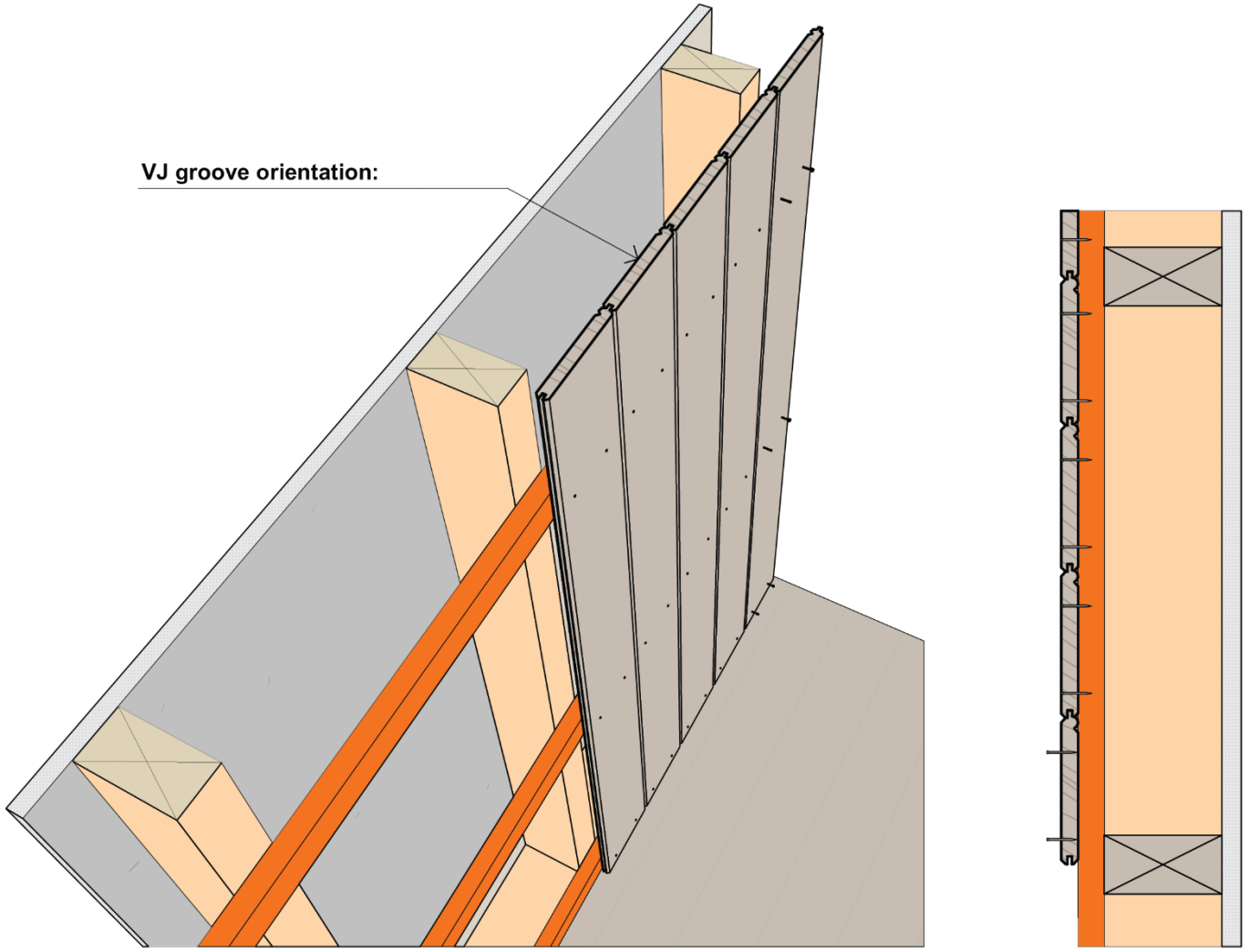


Figure 3 – Fixing location for secret fix shiplap profile

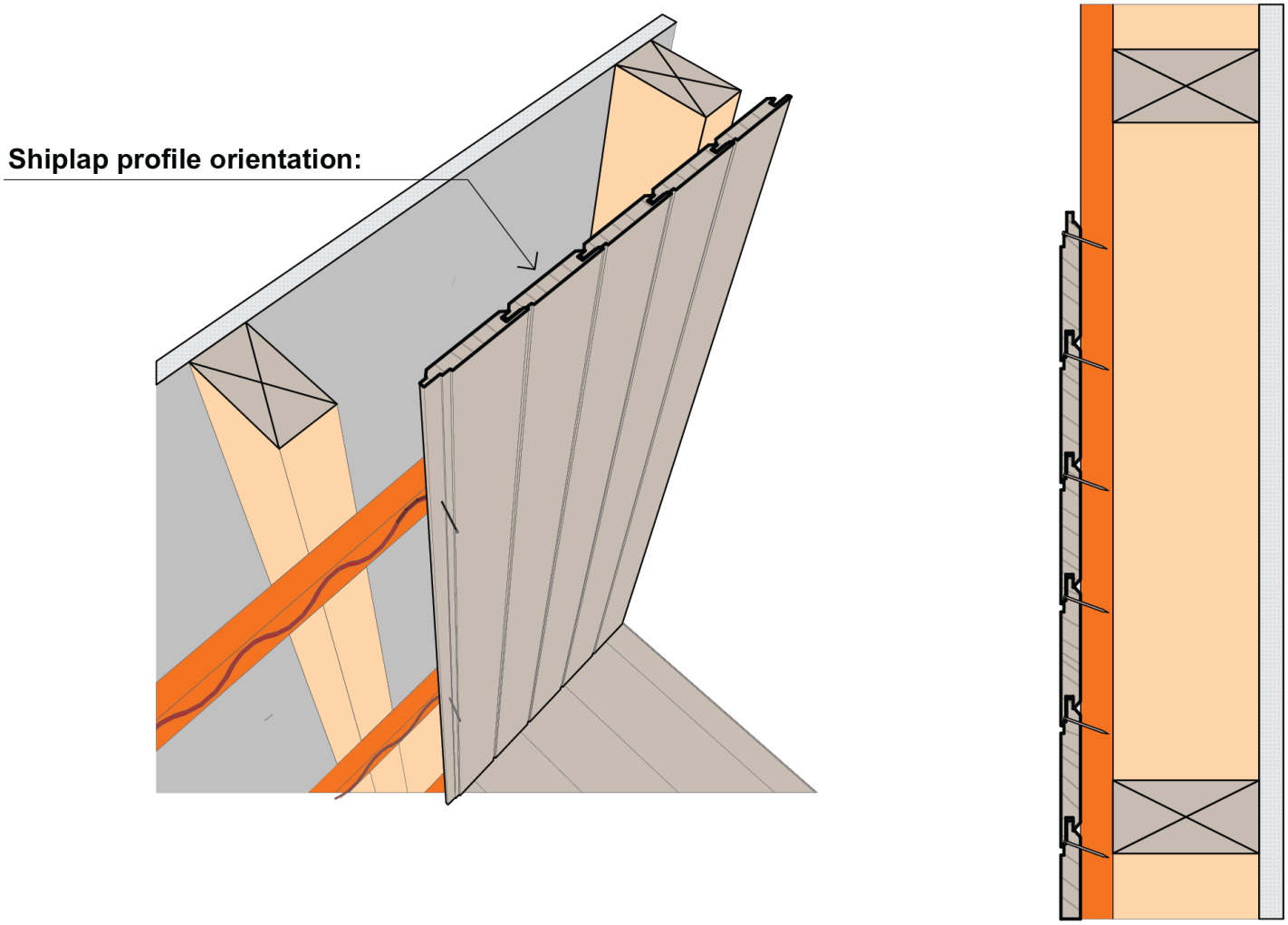
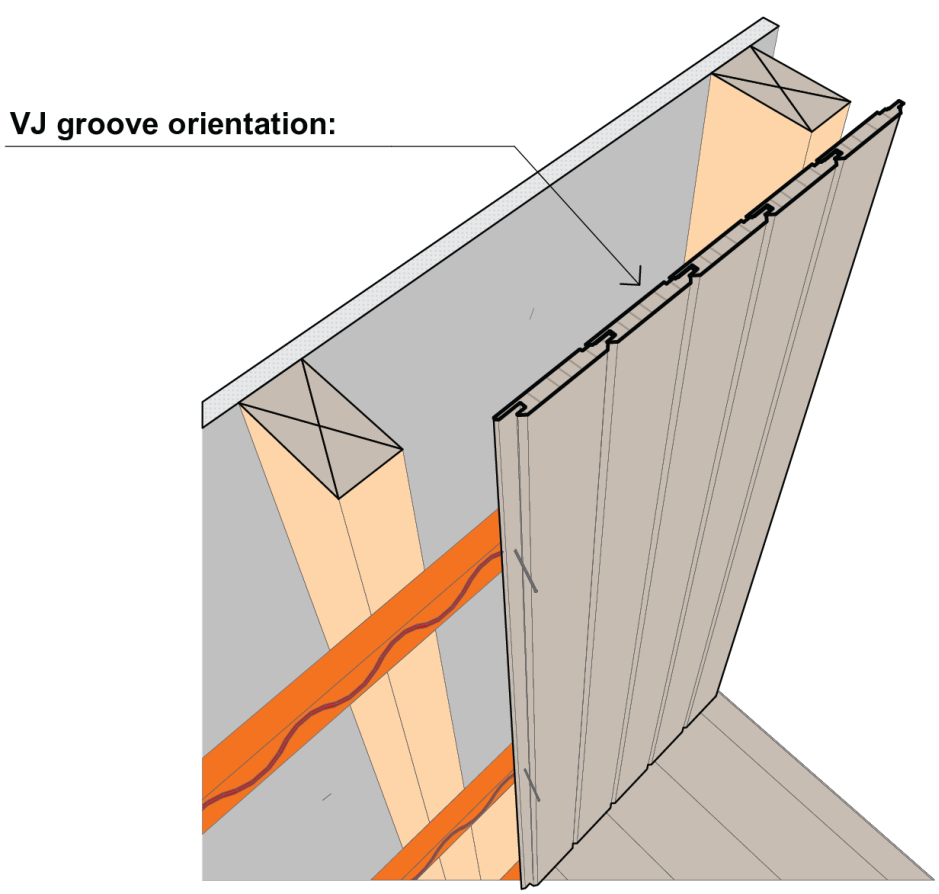


Figure 4 – Fixing location for secret fix VJ profile



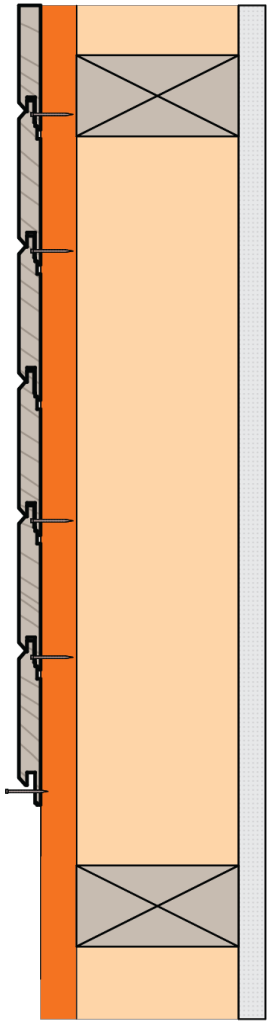


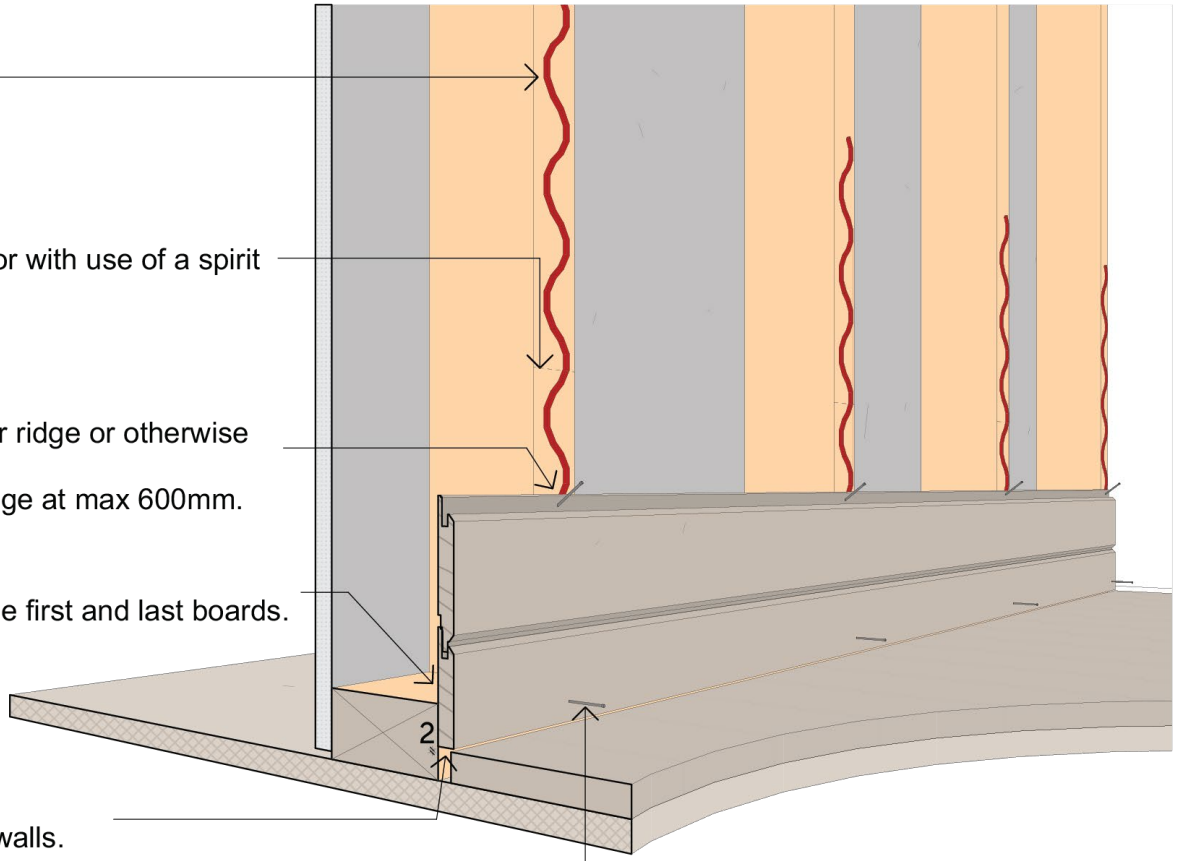
Figure 5 - Horizontal on stud

Adhesive application:
Bead along each fixing line.

Level checks:
Line boards with pre-marked lines or with use of a spirit level.

Secret fixing:
Do not push boards past the locator ridge or otherwise determined expansion gap.
Nail through the covered tongue edge at max 600mm.

Starter board:
Ripped to width, mechanically fix the first and last boards.



Expansion gap:
2mm on the top and bottom of the walls.

Mechanically face-fix:
Mechanical fi x the first and last board. (This only works if adequate expansion is left between all other boards)

Figure 6 - Horizontal on OSB

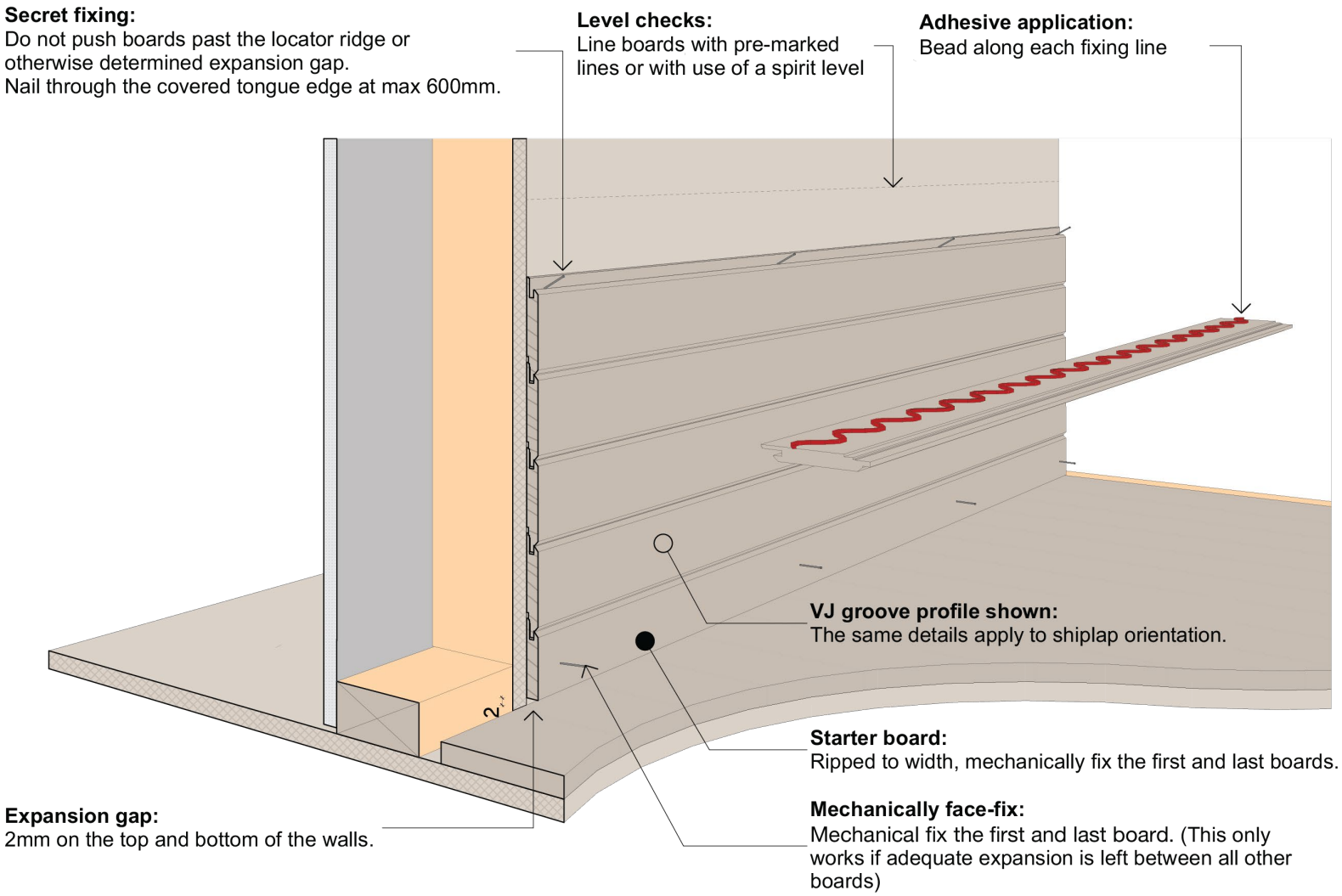
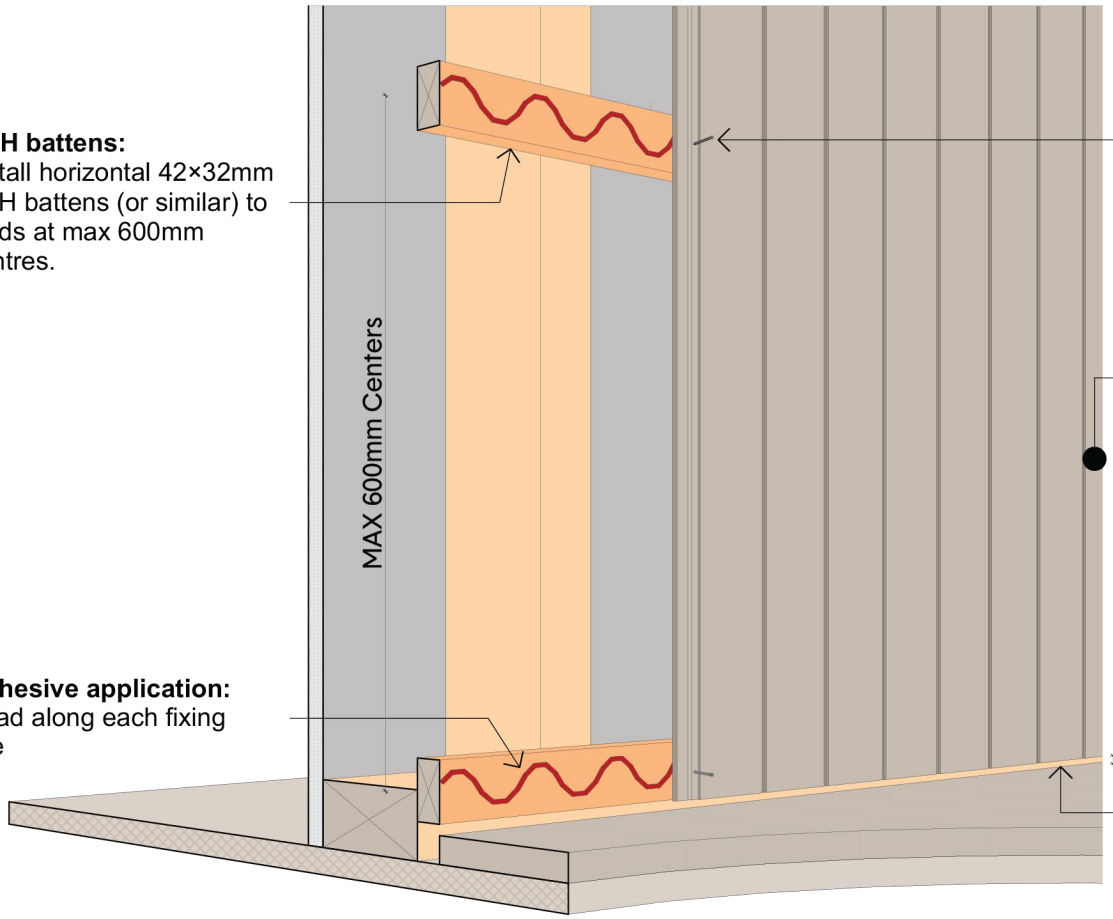


Figure 7 – Vertical on battens



ASH battens:
Install horizontal 42×32mm ASH battens (or similar) to studs at max 600mm centres.

Adhesive application:
Bead along each fixing line

Secret fixing:
Do not push boards past the locator ridge or otherwise determined expansion gap.
Nail through the covered tongue edge at max 600mm.

Starter board:
Ripped to width, mechanically fix the first and last boards.
(This only works if adequate expansion is left between all other boards).

Expansion gap:
2mm on the top and bottom of the walls.

Figure 8 – Internal corner junction

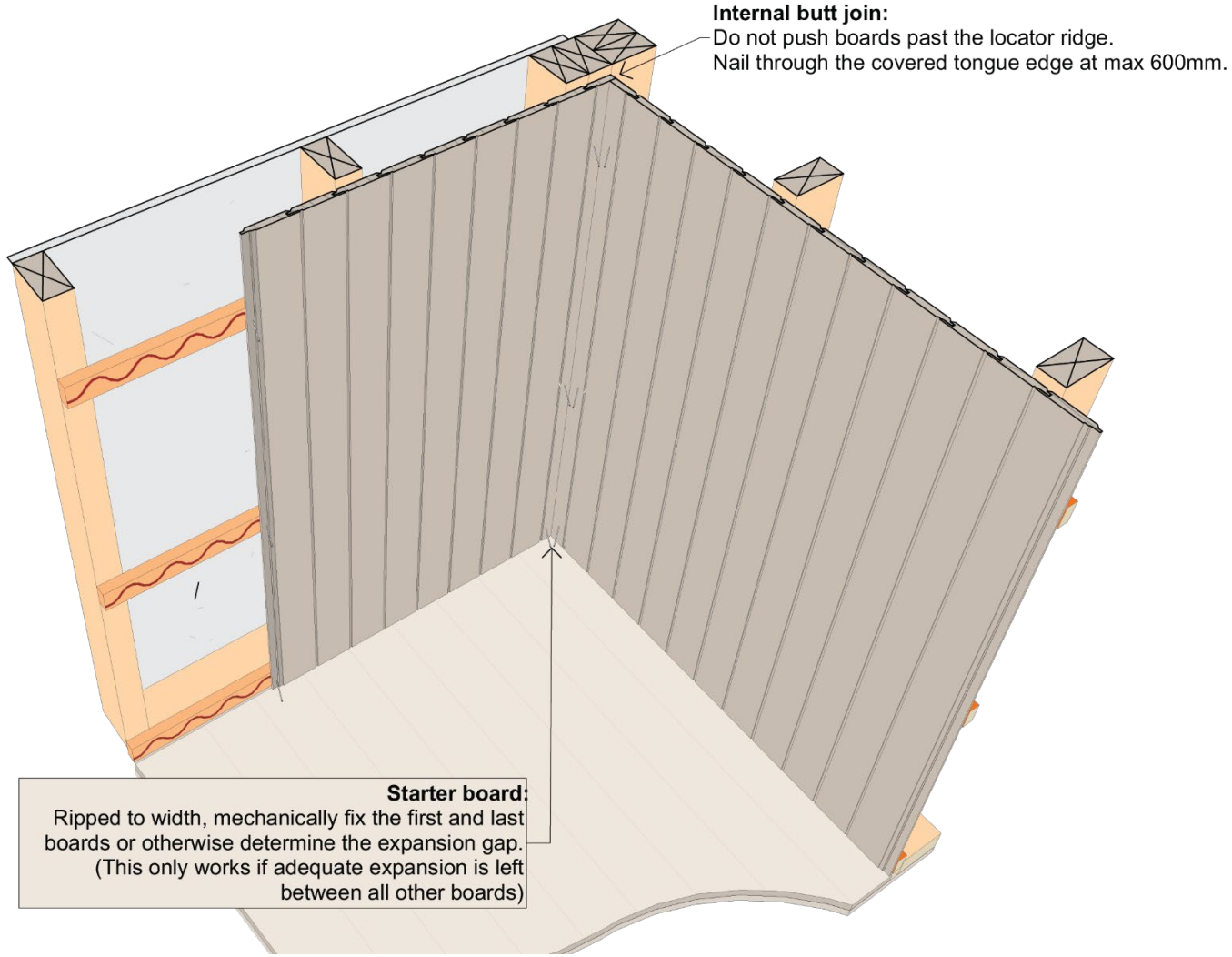
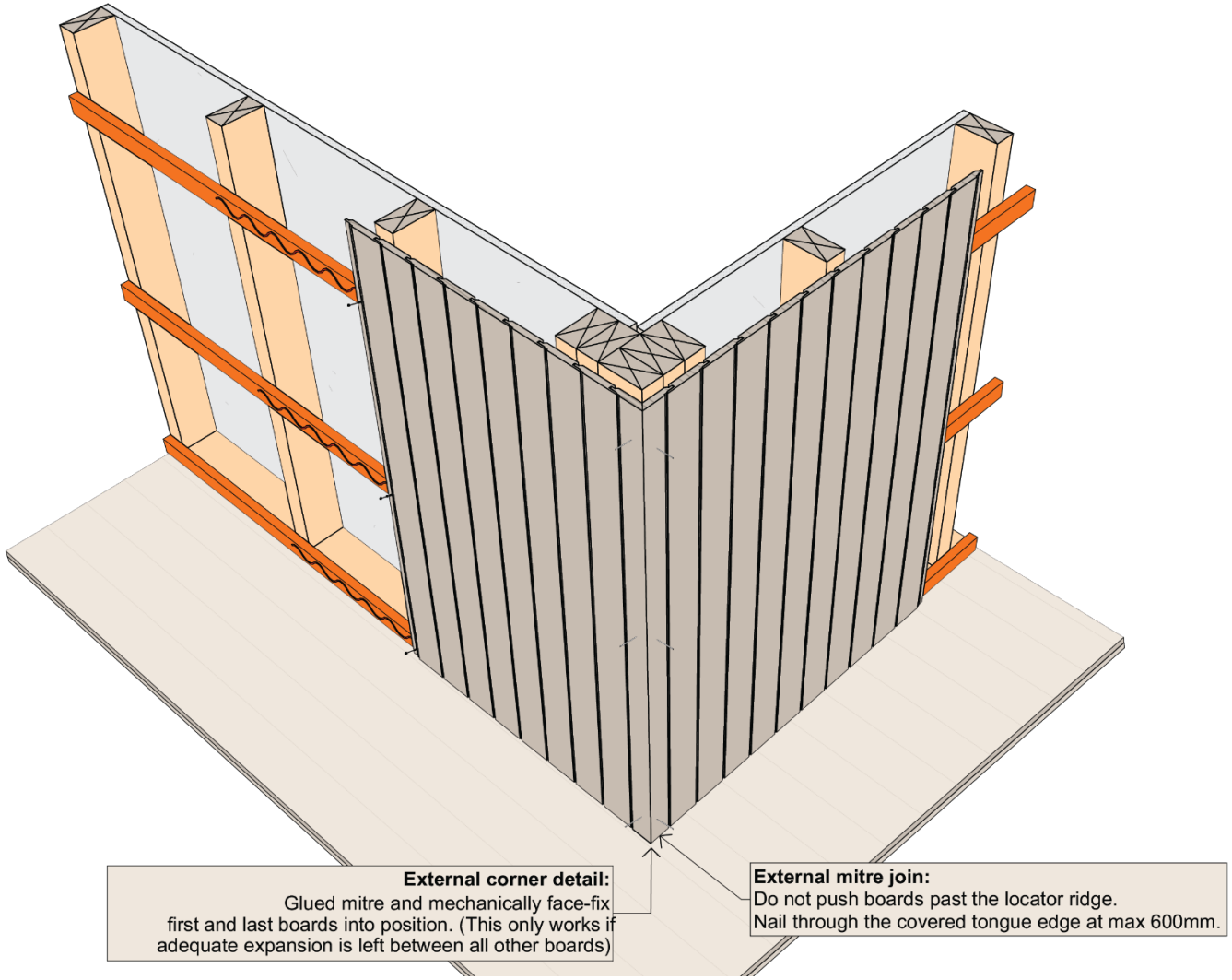


Figure 9 – External corner junction



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