# Coreclad® Primed Design and Installation Guide

November 2026



Groove150

Textured

## Coreclad® Primed

CoreClad® Primed is plywood specifically manufactured for use as cladding, treated to the core for enhanced durability and factory primed to help save time on site and achieve a better paint finish.

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# GENERAL

### Purpose
This guide will help correctly design, specify and install Coreclad®.

### Important documents
This document must be read in conjunction with

- The Coreclad® pass™ (refer to www.ibuilt.co.nz).
- MBIE [January 2017] Acceptable Solutions and Verification Methods for New Zealand Building Code (NZ Building Code) Clause E2 External Moisture (refer to www.building.govt.nz).
- Department of Building and Housing (DBH) June 2006. Constructing Cavities for Wall Claddings (refer to www.building.govt.nz).
- BRANZ Bulletin BU468 [December 2005] Fixing Timber Weatherboards (refer to www.branz.co.nz).
- BRANZ [May 2015] Good Practice Guide: Timber Cladding (refer to www.branz.co.nz).
- BRANZ Bulletin BU582 [April 2015] Structurally Fixed Cavity Battens (refer to www.branz.co.nz).

### Skills required
This guide is suitable for use by licensed building practitioners (or deemed practitioners) licensed to the relevant class.

### For more help
Technical assistance is available at enquiries@nzwoodproducts.co.nz

### For our warranty
Refer to www.ibuilt.co.nz

## SPECIFICATION TABLE

| | |
|---|---|
| Edge profile | Shiplap |
| Surface finish | Textured or Groove150 (textured with grooves at 150mm centres) |
| Panel length (mm) | 2440, 2745*, 3050* (* Scarf jointed) |
| Panel width/cover (mm) | 1200 (Cover), 1220 (Sheet) |
| Panel thickness (mm) | 12 |
| Channel dimension (Groove150) | 9mm wide, 5mm deep, 150mm centres |
| Face/back grade | SD |
| Veneer species | Hoop Pine & Klinkii Pine (from sustainable managed plantation forestry) |
| Weight | 23kg (2440mm), 26kg (2745mm), 29kg (3050mm) |
| Treatment | H3.2 ACQ veneer treated (Alkaline Copper Quaternary) |
| Bond | Phenolic Type A structural marine bond |
| Fixings | Must be stainless steel |
| Flashings | See page 8 |
| Finish | Primed |
| Primer (Coreclad® Primed) | Premium, waterbased, 100% acrylic primer (low sheen, dry film thickness 50 microns) |
| Visual appearance | Filled splits – maximum 8mm x 600mm on face<br>Filled holes – maximum 4 at 20mm. Sound knots – maximum 4 at 20mm |

*A scarf joint is used to manufacture 2745mm and 3050mm length sheets.

## ACQ TREATMENT - TREATED TO THE CORE

Each veneer of Coreclad® is pressure treated with Alkaline Copper Quaternary (ACQ), a water-based preservative that is free of arsenic and chromium. It is treated to meet hazard class H3.2. (NZS 3640) and H3 (AS/NZS 1604).

ACQ is formed when the components of copper oxide and quaternary ammonium compounds are combined, becoming effective in protecting timber against fungal decay, borers, and termites.

ACQ contains higher levels of copper than other preservatives, which means it can be more corrosive to metals. Stainless steel fixings must be used to minimise the possibility of bi-metallic corrosion.

# CORECLAD® CLADDING SYSTEM

## DESCRIPTION

Coreclad® panels are manufactured from both Hoop Pine & Klinkii Pine, which have been grown from sustainably managed plantation forests.

Individual veneers are ACQ treated to meet hazard class H3.2 and then manufactured into plywood sheets by bonding the treated veneers with a phenolic Type A structural marine bond. The plywood sheets are machined, band sawn, grooved (if required) and ship-lapped to form the finished cladding panel.

The manufacture of Coreclad® is third party certified by EWPAA to meet AS/NZS 2269:2012-Plywood Structural Standard.

Coreclad® panels are supplied Grade S-D, F14 in the following dimensions:

- Sheet thickness (mm) 12
- Sheet length (mm) 2440, 2745*, 3050* *Note: 2745mm & 3050mm sheets are scarf jointed.
- Sheet width 1200mm (cover), 1220 (overall).
- Sheets available as Groove150 or Textured, with a primed finish.

Certifications & approvals
EWPAA Product Certification Scheme, Mill Number 916 AS/NZS 2269, 31/10/2023

Scope and limitations of use
For scope and limitations refer to Coreclad® pass™.
http://nzwoodproducts.co.nz/products/ details/ibuilt-coreclad/26/

## SCARF JOINT

Scarf jointing is a standard method of joining two panels end to end, and is used to manufacture Coreclad® in longer lengths. The scarf is used to join 2440mm long sheets with either a 300 or 600mm extension to produce 2745 or 3050mm length sheets.
The Coreclad® scarf joint is fabricated in accordance with AS/NZS 2269 with a 1 in 8 slope and has the same bond durability and quality as the plywood.

# DESIGN

## PRIMARY STRUCTURE

The primary structure must be designed:

- In accordance with NZS 3604:2011 section 2 for timber framing
- Studs should be maximum 600mm centres for timber construction.
- Where the primary structure is existing, the designer and installer should ensure themselves that it is suitable for the intended building work.

Due to stainless steel being incompatible with zinc, Coreclad® may not be suitable for use with steel framed house construction.

## WALL UNDERLAYS

A breather type wall underlay meeting, as a minimum, the performance requirements of E2/AS1 Table 23 is required. Where relying on a Product Certificate (CodeMark) or BRANZ Appraisal is acceptable, ensure the conditions of use and scope are appropriate.

When replacing existing claddings with Coreclad®, IBuilt recommends that existing wall underlays are replaced.

## DIRECT FIXED OR CAVITY CONSTRUCTION

Coreclad® may be direct-fixed or fixed over a drained, ventilated cavity depending on the risk score. Refer to E2/AS1 paragraph 3.1 and 9.1.8.
Where a drained cavity is required it must be designed to meet the requirements of E2/AS1 paragraphs 9.1.8 to 9.1.9.4.
Cavity closer/vermin proofing is to be in accordance with E2/AS1 9.1.8.3 and Figure 66.

## GROUND CLEARANCES

Specify ground clearances. Ground clearances must be at least 175mm clear of soil and 100mm clear of paving. Refer to Detail 1.12 Coreclad® Cladding Base of Wall (page 12).

## FIXINGS

Stainless steel fixings (type 316) must be used when installing Coreclad® to minimise the possibility of bi-metallic corrosion.

## CONFIGURATION FOR HORIZONTAL JOINTS

Horizontal joints are to be in accordance with E2/AS1 paragraph 9.8.3.2.

## FLASHINGS

The flashing material should suit the specific detail, exposure zone, durability requirements, and compatibility with all adjoining materials. Resolve any project-specific compatibility questions before installation. See page 8.

## WINDOWS AND DOORS

Windows and doors are to be in accordance with E2/AS1 paragraph 9.1.10 and Figure 115 for direct fixed construction or Figure 116 for cavity construction. Ensure 5mm clearance of joinery to cladding is maintained.

## COATING

Coreclad® Primed is intended to be used with a paint finish. For more information refer to page 7.

## EXTERNAL STRUCTURES

Where an external structure such as a deck or pergola is connected to the building, an H3.2 treated timber packer with EPDM washer must be used at all bolt locations to ensure moisture is not trapped between structure and cladding. Refer to detail 1.13 (direct fixed)

## DOCUMENTATION

Ensure the building consent plans and specifications clearly define all:

- Fixings – type and installation
- Flashings – type and installation
- Relevant details.

The installer will be relying on these documents, along with this guide, to install Coreclad® correctly and in accordance with the building consent (where applicable).

Commonly used installation details


- Direct fixed (pg 11).
- Cavity Construction (pg 14).

# INSTALLATION

## Key documents for referencing

- Building consent plans and specifications
- E2/AS1
- NZS 3604:2011
- This guide

## Primary structure

The substrate must be straight, true and within the framing tolerances of NZS 3604, Section 2 and Table 2.1 or where existing, suitable for the installation of Coreclad®.
Vertical studs must be at maximum 600 mm centres, with horizontal nogs/dwangs fitted flush between the studs at maximum 800 mm centres.
Refer to 'cavity construction' section for stud and nog/dwang spacings.

## Wall underlays

The specified wall underlay must be installed. Where an alternative is to be substituted, ensure that it is a like for like substitution. Where a rigid air barrier is installed, as a temporary cladding, it must be in installed in accordance with the rigid air barrier's technical specifications. Ensure that Coreclad® is installed over the rigid air barrier within the recommended exposure period.

## Cavity construction

Where Coreclad® is to be installed over a drained cavity, the cavity must meet the requirements of E2/AS1 paragraphs 9.1.8 to 9.1.9.4. Wall underlays must be restrained from bulging into the cavity space. This can be achieved by applying polypropylene tape between battens or additional battens at 300mm crs when studs are at 600mm crs (Refer page 9).
Cavity closer/vermin proofing must be in accordance with E2/AS1 9.1.8.3 and Figure 66. Cavity closer/vermin-proofing must be installed at the base of all walls, open horizontal (or raking) junctions and over openings (windows, meters etc). Length and width of cavity closer/vermin-proofing applied must suit the cavity. Openings in cavity closer/vermin-proofing must be clear and unobstructed.
Coreclad® can be fixed over structurally fixed cavity battens, refer to BRANZ Bulletin BU582.

## Moisture content

Coreclad® panels must have a moisture content of less than 15% before installation and 15% or less before priming cut ends or painting.

## Layout

Establish stud centres as per the consent. Establish layout to ensure panel joints align with the centre line of framing members, and to optimise panel usage to avoid unnecessary wastage and joints.

## Fixings

Stainless steel fixings (type 316) must be used when installing Coreclad® to minimise the possibility of bi-metallic corrosion. See Coreclad® sheet fixing set out on page 9 for more details.
Nail guns must be used with caution as they can easily be over-driven creating a source for moisture ingress.

## Flashings

The flashing material should suit the specific detail, exposure zone, durability requirements, and compatibility with all adjoining materials. Resolve any project-specific compatibility questions before installation. See page 8.

## Install Coreclad®

Coreclad® panels are to be fixed through the wall underlay into the wall framing as required in E2/AS1 Table 24. Ensure all panel horizontal joints are as detailed in the building consent and E2/AS1. Use laser or mechanical devices to set-out all nailing accurately in straight lines.

- Coreclad® is veneer treated to H3.2, which means on-site re-treatment of cut-ends is not required.
- Prime cut edges and the back of the bottom of the sheet to a height of 150mm.
- Do not fix Coreclad® through the drainage rebate on the panel edge.
- Install all sheets vertically
- Do not nail through the top of the shiplap
- Use temporary 9mm spacer while fixing grooved sheets
- Non-grooved sheets require a 2mm gap between sheets to allow for expansion.

## Windows and doors

Install windows and doors as set out in the building consent details. Refer to E2/AS1 paragraph 9.1.10 and Figure 115 for direct fixed construction or Figure 116 for cavity construction. A set of common installation used details have been included in this guide for reference. Ensure 5mm clearance of joinery to cladding is maintained.

## Quality check

On completion, visually inspect all sides of the building ensuring the cladding system is completely weather-tight. The building owner should be advised of all maintenance requirements.

CUT ENDS NEED TO BE PRIMED BUT NOT RETREATED

# COATING

The New Zealand Building Code Clause B2 requires claddings to achieve a minimum structural durability level of 15 years. Coreclad® will meet this requirement when painted to the coating manufacturer's specifications.
It is the responsibility of building owner, specifier and applicator for the selection, application and maintenance of coatings.
For advice on specific coating products, surface preparation, and general coating practice always refer to the coating manufacturer.
Ask IBuilt for samples of Coreclad® to be used as coating test pieces.

## Coreclad® Primed

Each sheet is coated with a premium acrylic primer in factory conditions, the sheets are primed on the face, edges and the bottom 150mm on the back of the sheet. The primed sheets require a minimum of two topcoats, with each topcoat being a minimum of 25 microns. A third coat is required for north facing walls, harsh climates, or where dark colours as being used.
Coreclad® Primed may be painted with most common exterior domestic paint systems including water borne acrylic paints and water borne enamel systems. Application of solvent based/ catalysed topcoats is not recommended as the flexibility of the plywood substrate may induce cracking of the topcoat.
Do not use active organic solvents such as thinners or methyl ethyl ketone (MEK) on Coreclad® Primed.

## Colour Selection

An important part of selecting a colour is understanding the colour's Light Reflectance Value (LRV). LRV refers to how a light or dark paint colour will look on a scale of 0 (black) to 100 (white). The higher the LRV number, the lighter the colour. The colour LRV for Coreclad® Primed can be less than 40 if key criteria are met (see Painting Dark Colours).

## Painting Dark Colours

To paint the exterior a dark colour, the following criteria must be met to ensure maximum product performance
•Coreclad® Primed must be used.
•Use Dulux Weathershield® Colourguard™ or Resene CoolColour™ and follow the paint manufacturer's instructions. The Resene CoolColour™ system requires Resene's specified primer to be used over the top of the primer coating on Coreclad® Primed.
•3 topcoats must be applied.
•Carry out regular paint maintenance. The use of dark paint colours requires an increase in coating maintenance over the lifetime of the cladding, compared to lighter colours.

## Coatings

The more pigment in the paint, the more resistance to ultra-violet (UV) degradation and resultant breakdown of the face veneer. Paint offers more protection than stain against mechanical and UV degradation.
To provide the longest design life for Coreclad® the recommended coating system by paint manufacturers is:
•For paint colours with an LRV greater than 40 (light colours) use 2 topcoats of a premium, 100% acrylic paint system.
•For paint colours with an LRV less than 40 (dark colours) follow the criteria listed in the above section titled Painting Dark Colours.
• For north facing walls and harsh climates use 3 top coats. This must be combined with a regular maintenance programme (see Coreclad® Warranty Care and Maintenance Guide).

## Preparation

Coreclad® Primed can be painted immediately after installation with a suitable coating system. The sheets must have 15% or less moisture content before coating. This is to prevent tannin bleed, which can stain the exterior face of the panel.
Prior to the application of any coating ensure the sheet surface is dry and free from dirt, dust, mould and any other contaminants. If required, wash with a mild detergent and allow to dry.
Before washing down, use a soft bristle brush to clean the grooves on Coreclad® Groove150.
Spot prime any nail heads, gaps and cut edges with a quick dry acrylic primer.

## Application

Check with your coating's manufacturer for the recommended preparation and application method to suit the conditions for your project. Ensure an adequate coating is applied as per the directions of the paint manufacturer's data sheets.
Coreclad® Primed must be coated within 3 months of installation. Apply a minimum of 2 or 3 topcoats of a premium 100% acrylic exterior house paint (depending on colour) as per the paint manufacturer's instructions and in accordance with the appropriate clauses in AS/NZS 2311 Guide to Painting of Buildings.
For Coreclad® Groove150, paint the grooves first using a hand brush and then paint the surface. After the recommended re-coat time, repeat for the second, and third coat, if required. A third topcoat is recommended on north facing walls, where the building is in harsh climates such as coastal or alpine regions, or where a dark colour with an LRV less than 40 has been used.

## FLASHINGS

Bi-metallic corrosion can occur when dissimilar metals interact in the presence of moisture, accelerating the deterioration of the less corrosion-resistant material. Copper-based timber preservatives such as ACQ and CCA can react aggressively with aluminium, so direct contact must be avoided by selecting compatible flashings or providing a durable separation barrier.

The flashing material should suit the specific detail, exposure zone, durability requirements, and compatibility with all adjoining materials. Resolve any project-specific compatibility questions before installation.
Design and install flashings in accordance with the applicable requirements of E2/AS1, paragraphs 9.8.4 and 9.8.5. Check the compatibility of adjoining materials against Tables 21 and 22.
The following flashing materials may be considered for use with ACQ-treated Coreclad® plywood:

- Stainless steel
- Powder-coated aluminium (with a separation barrier of at least 200 microns)
- PVC

### Stainless steel:

Stainless steel provides strong resistance to the bi-metallic corrosion risk associated with copper-based preservative treatments. Select a stainless-steel grade suited to the project environment and refer to the Coreclad® stainless steel Flashing care and maintenance flyer.

### Powder-coated aluminium:

Powder-coated aluminium may be used where direct contact with ACQ-treated Coreclad® is prevented. Maintain a continuous physical separation barrier of at least 200 microns, achieved by using DPC or flashing tape, between the plywood and the flashing. Detailing and installation should avoid damage to the coating and prevent moisture from being trapped at the interface.

### PVC:

PVC is non-metallic and is not subject to corrosion from the copper-based treatment. PVC can be used in concealed locations such as cavity closers and internal corner flashings.

## FACE CHECKING

Face checking are fine splits that run in the direction of the grain in the face veneer of plywood and can sometimes be seen on panels that have been exposed to the weather. The splits are the result of natural cyclic expansion and contraction of the timber due to changing moisture content, which can be associated with changing temperature i.e. when exposed to heat and cold. The results of expansion and contraction can be amplified further by painting in darker colours. The initial face checking is superficial and does not alter the structural integrity of the plywood, however if allowed to continue can cause a breakdown of the face veneer.

The addition of a 3rd top coat after 4-6 months can help offer additional protection to any checks or splits that have appeared.

## HEALTH & SAFETY

Take all necessary steps to ensure your safety and the safety of others:

- Ensure adequate ventilation or mechanical dust extraction when cutting or drilling.
- Ensure the timber is well supported when cutting and nailing.
- Wear appropriate safety equipment, clothing and footwear.
- Use all tools in accordance with relevant instruction manuals.
- Plan and monitor a safe approach for working at height; select and use the right equipment.
- Clear the work area of any obstructions before work starts.

For further information refer to:

- WorkSafe Small Construction Sites, The Absolutely Essential Health and Safety Toolkit, July 2018.
- WorkSafe Health and Safety at Work, Quick Reference Guide, December 2016.

These documents are available at www.worksafe.govt.nz.

## STORAGE & HANDLING

Correct handling and storage of Coreclad® is critical for best performance, ease of use and warranty adherence.

Coreclad® should be delivered dry, unmarked and undamaged from freight and handling. All panels should be inspected upon the delivery. Coreclad® should be lifted off the truck by hoist or hand.

The storage area should be ventilated and protected from sun, rain and wind. These conditions could bring about rapid changes to temperature and humidity. Correct storage avoids the potential for staining, fading or surface checking prior to installation.

Stack panels horizontally, dry and clear off the ground by 100 mm and supported on dry, clean timber bearers at maximum of 900 mm centres and at both ends of the panels to avoid distortion.

Keep panels dry at all times; either by storing within an enclosed building or use an additional weatherproof cover as a secondary to packaging wrap if stored outside but also ensure that there is sufficient air flow to avoid condensation. Avoid storing over standing water or vegetation.

Delivery should be timed to allow minimum time sitting on site, especially when panels are in unfinished, damp buildings or in an uncovered building allowing the chance of moisture uptake. Extra care must be taken to avoid damage to panels edges and surfaces, especially during installation.

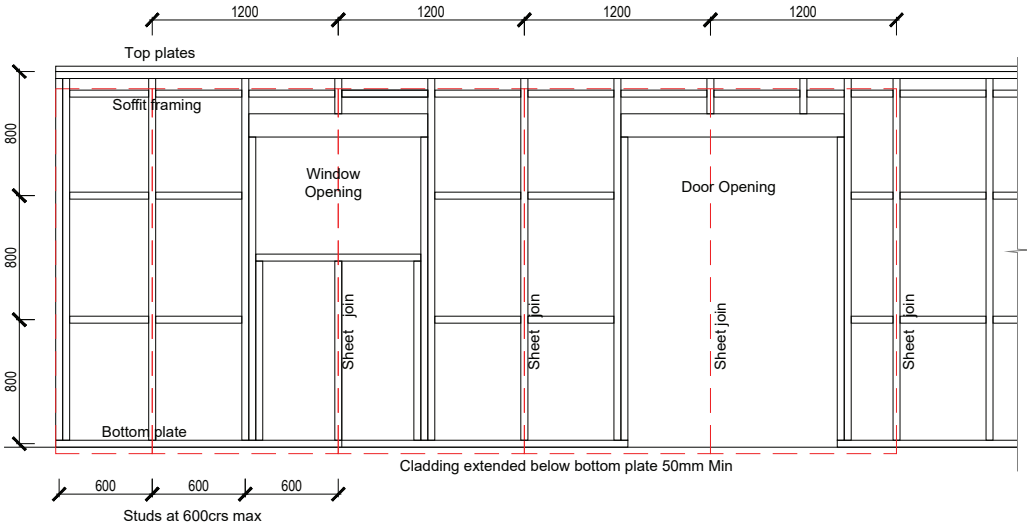
Product must be fully dry (15% or less moisture content) before priming or painting. This is to prevent tannin bleed, which can stain the exterior face of a painted panel.

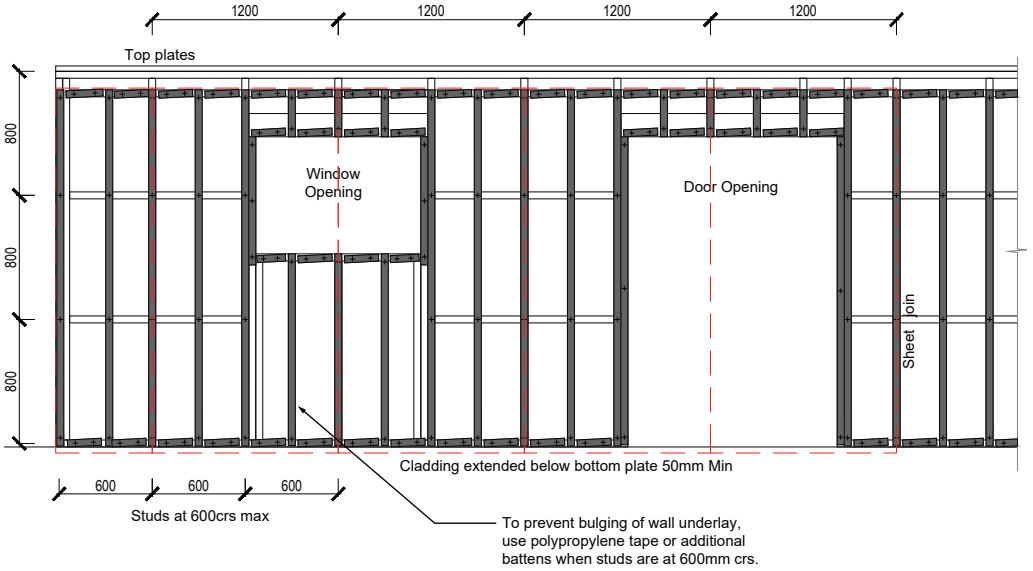
## CARE AND MAINTENANCE

To get the best performance out of Coreclad®, it is required to be regularly checked, washed and maintained.
Please refer to the Coreclad® Care and Maintenance guide for maintenance recommendations.When Coreclad® is maintained using these recommendations Coreclad® will last a minimum of 15 years in accordance with clause B2 Durability, NZBC.

# FRAMING

## Framing set out requirements



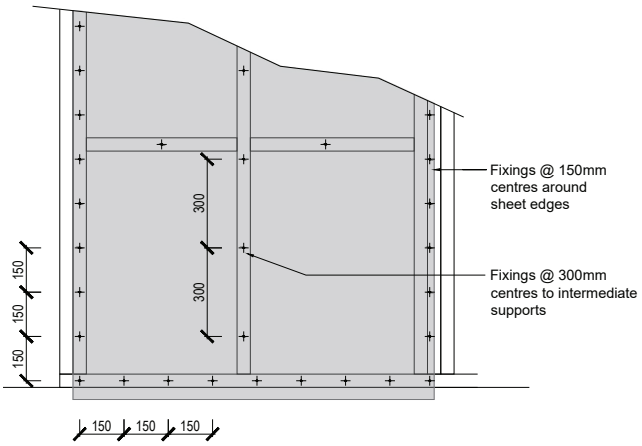




## Coreclad® sheet fixing set out

| Fixing Type | Direct Fixed | Cavity Fixed |
|---|---|---|
| Nails (SS) (Type 316) | 50×2.8mm | 60×2.8mm |
| Screws (SS) (Type 316) | 40×8g | 65×8g |

### Fixing Notes:

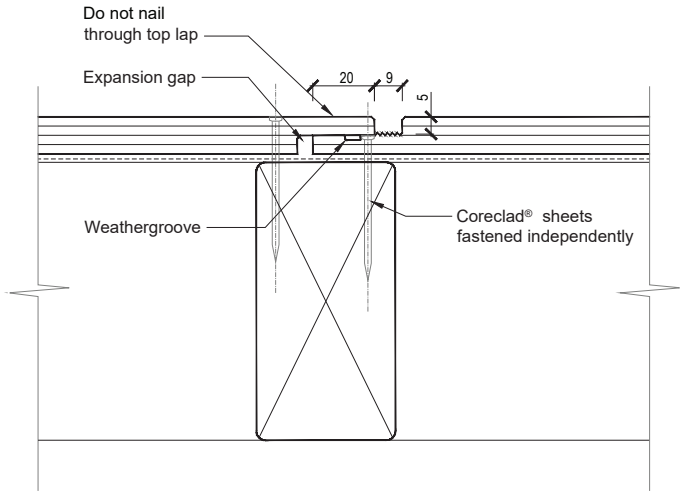
- Galvanised fixings are not permitted. All fixings must be stainless steel.
- All sheet edges must be supported by wall framing.
- Coreclad® sheets must be installed vertically.
- Do not fix through the grooves.
- Fixings are to be driven flush with the surface. Do not over drive fixings.
- Only fix to cavity battens that are located over wall framing to avoid damage to building wrap.
- Fixings to be no closer than 7mm to sheet edges.
- Do not fix through the top lap or weather groove of the shiplap.



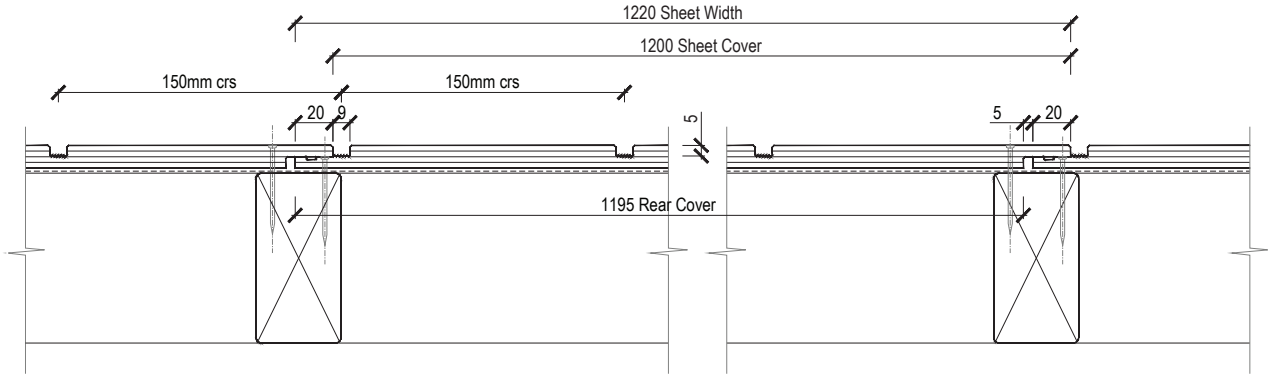
# SHEET PROFILES

## Shiplap

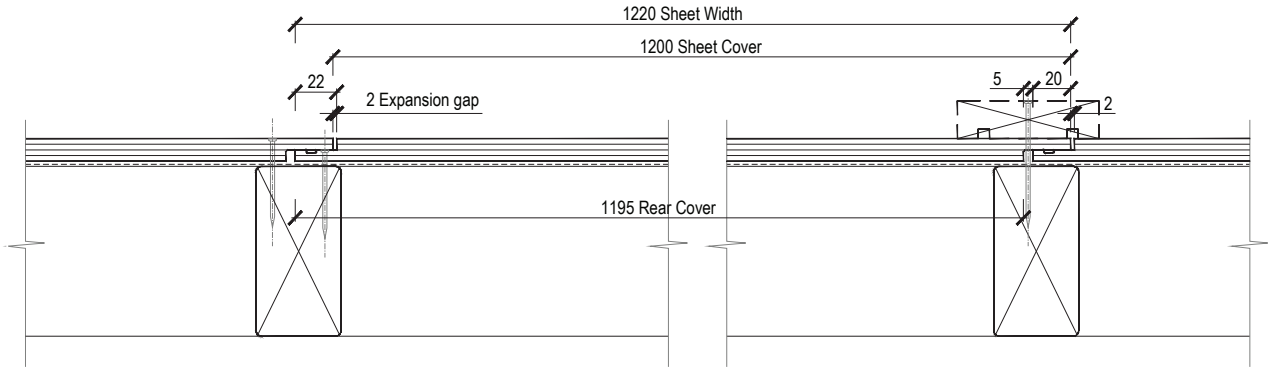
Do not fix through the top lap or weather groove of the shiplap.




## Grooved sheet dimensions

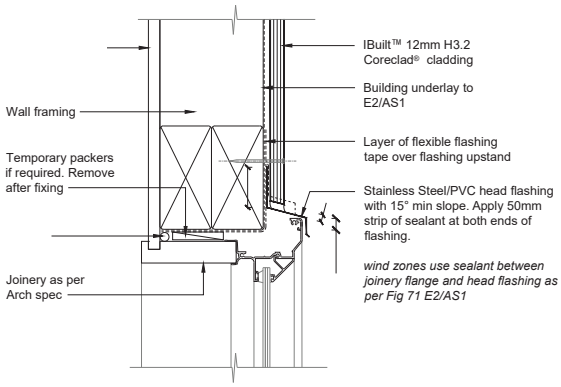



## Ungrooved sheet dimensions with optional batten

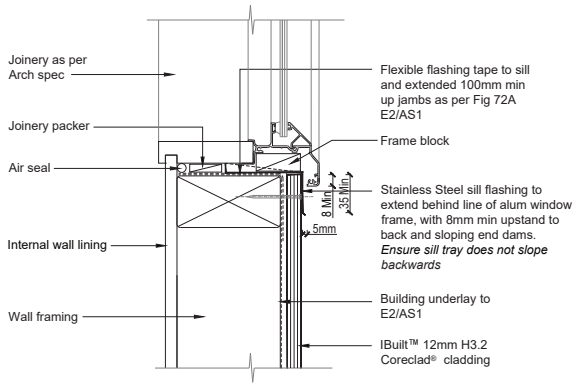


# INSTALLATION DETAILS - DIRECT FIXED

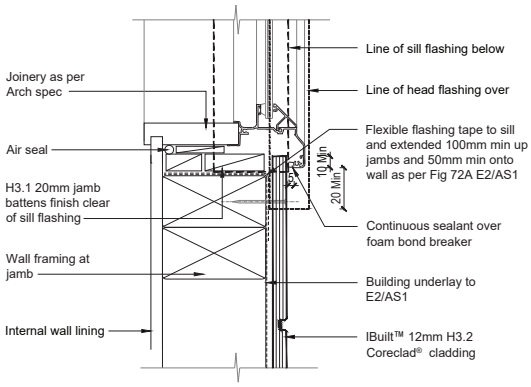
## 1.1 Coreclad® Window Head Detail



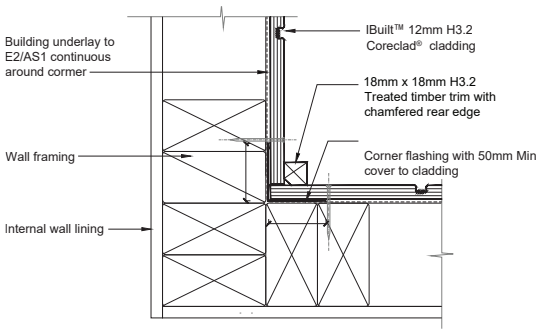

## 1.2 Coreclad® Window Sill Detail



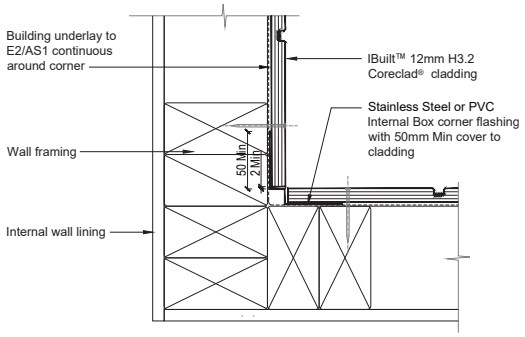

## 1.3 Coreclad® Window Jamb



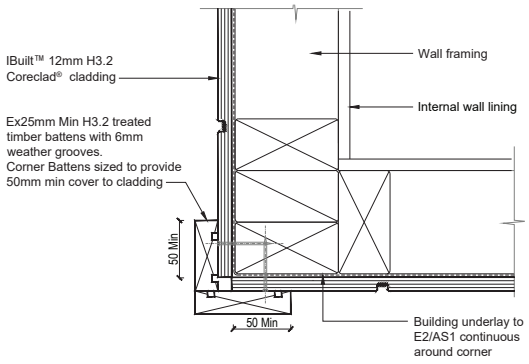

## 1.4 Coreclad® Internal Corner




## 1.5 Coreclad® Internal Corner - 'W' Flashing



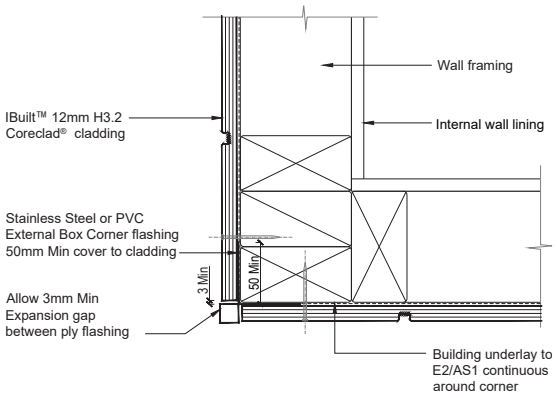

## 1.6 Coreclad® External Corner - Battened



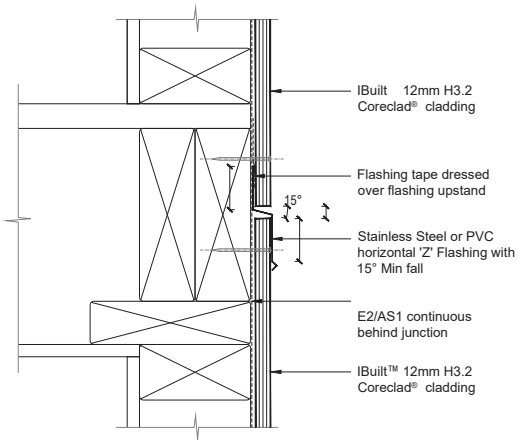

IBuilt™ Coreclad® Ply Cladding is to be installed as per the requirements of Clause E2/AS1 Section 9.8

# DETAILS CONTINUED

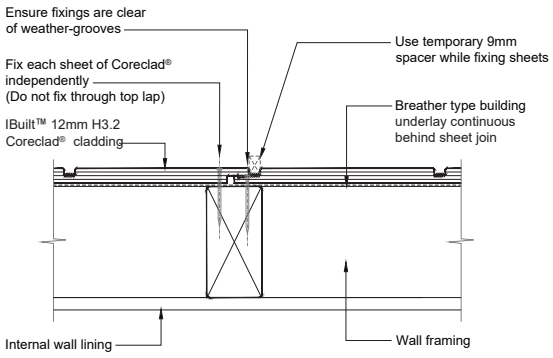
## 1.7 Coreclad® External Corner - Box Flashing



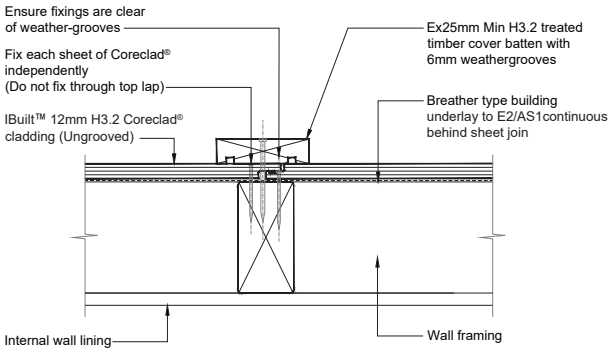

## 1.8 Coreclad® Horizontal Junction



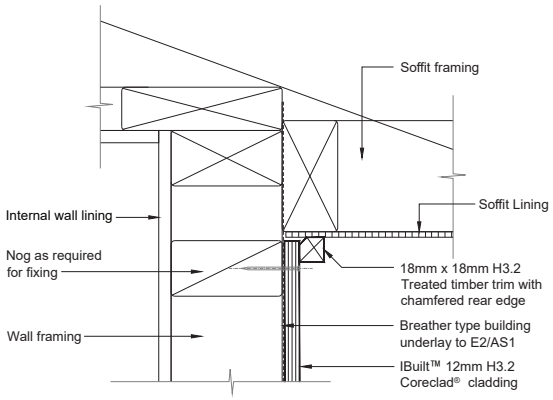

## 1.9 Coreclad® Vertical Sheet Joint



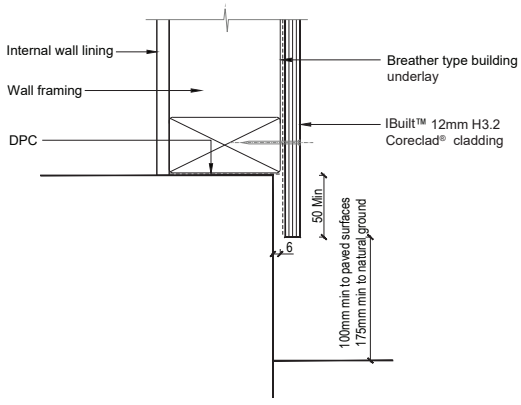

## 1.10 Coreclad® Vertical Sheet Joint - Battened




## 1.11 Coreclad® Soffit Junction




## 1.12 Coreclad® Cladding Base of Wall

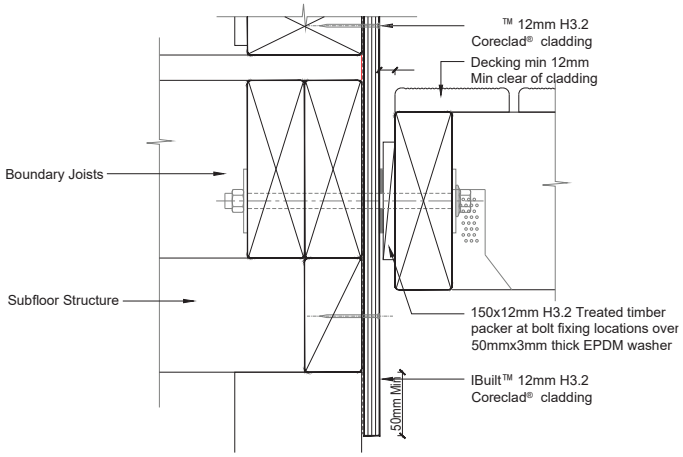




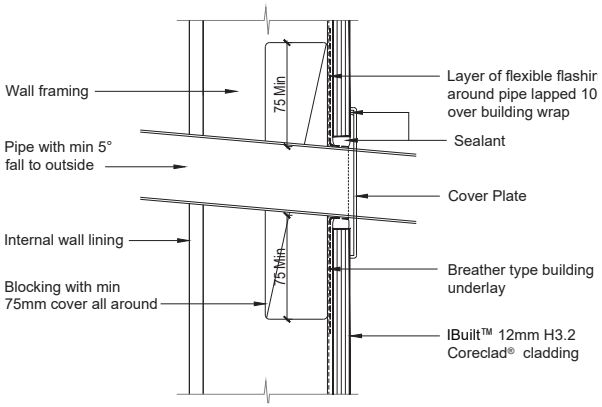

IBuilt™ Coreclad® Ply Cladding is to be installed as per the requirements of Clause E2/AS1 Section 9.8

# DETAILS CONTINUED

## 1.13 Coreclad® Deck Connection Detail

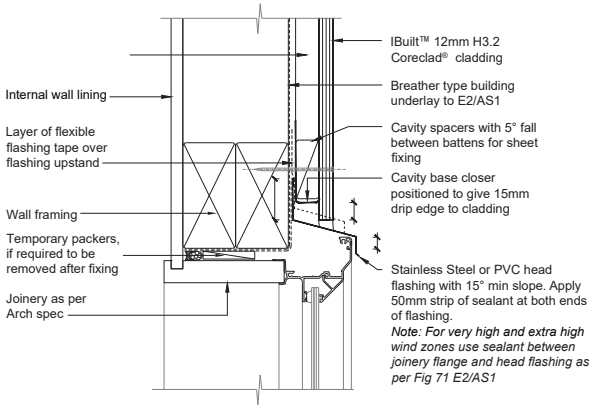



## 1.14 Coreclad® Pipe Penetration Detail

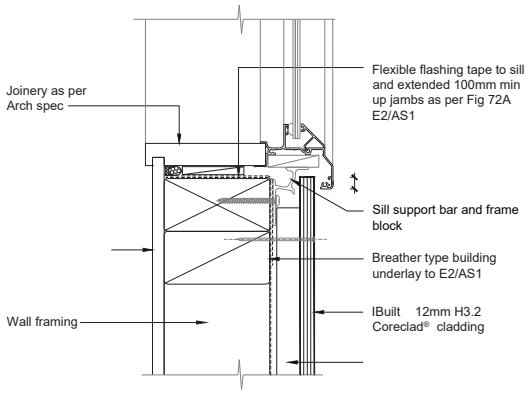



# INSTALLATION DETAILS - CAVITY CONSTRUCTION

## 2.1 Coreclad® Window Head Detail



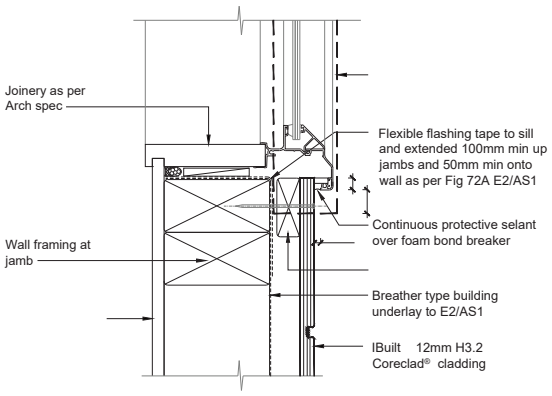

## 2.2 Coreclad® Window Sill Detail



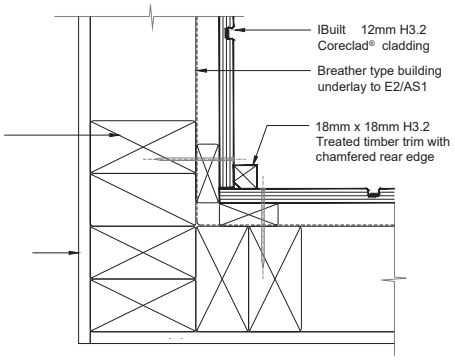

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# DETAILS- CONTINUED

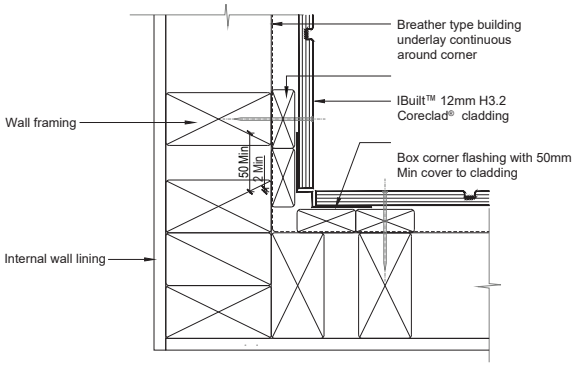
## 2.3 Coreclad® Window Jamb Detail



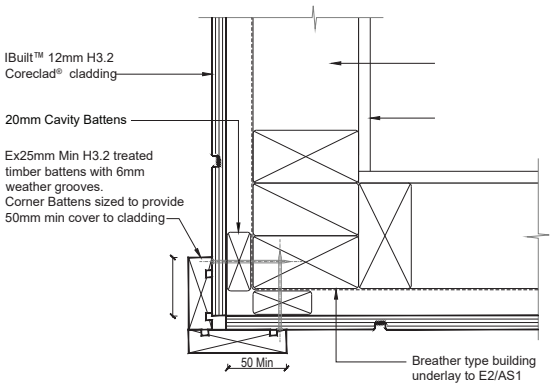

## 2.4 Coreclad® Internal Corner



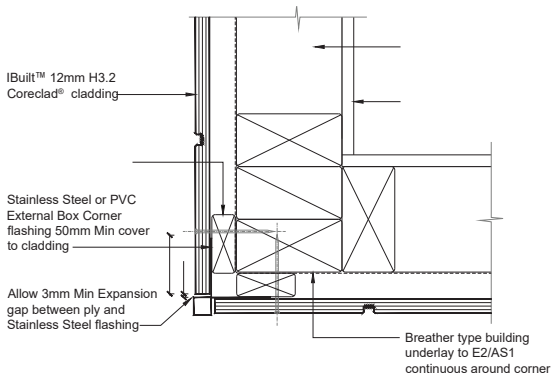

## 2.5 Coreclad® Internal Corner - 'W' Flashing



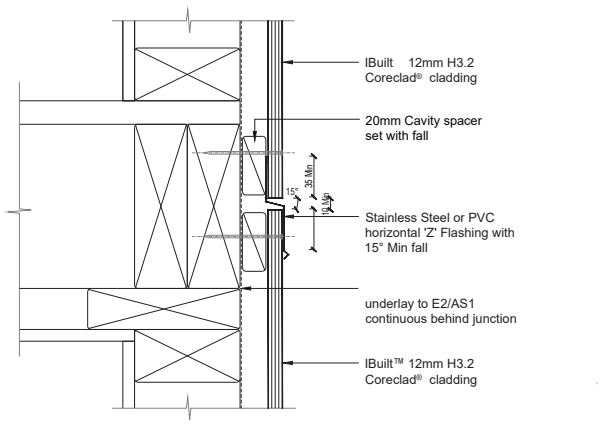

## 2.6 Coreclad® External Corner - Battens




## 2.7 Coreclad® External Corner - Box Flashing




## 2.8 Coreclad® Horizontal Junction

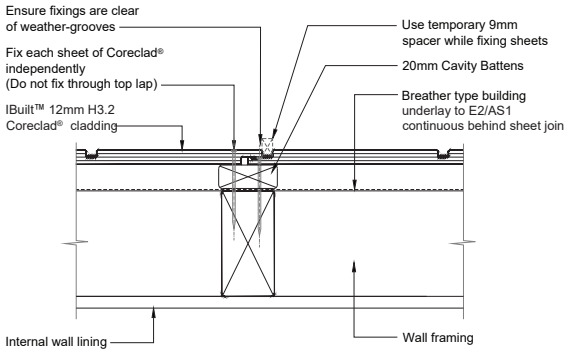




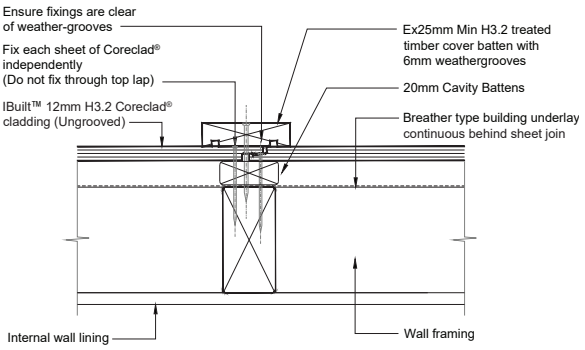

IBuilt™ Coreclad® Ply Cladding is to be installed as per the requirements of Clause E2/AS1 Section 9.8

# DETAILS- CONTINUED

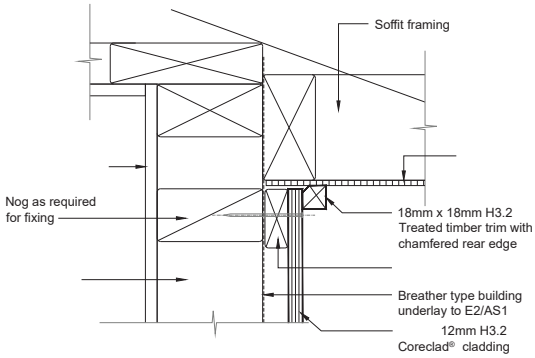
## 2.9 Coreclad® Vertical Sheet Joint



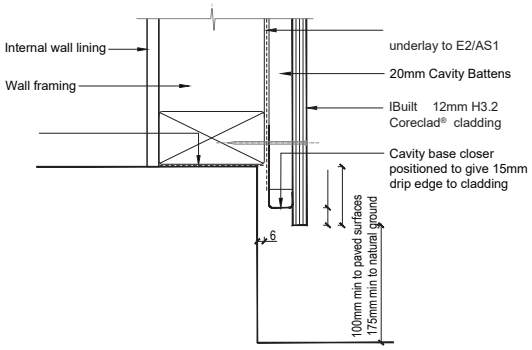

## 2.10 Coreclad® Vertical Sheet Joint - Batten



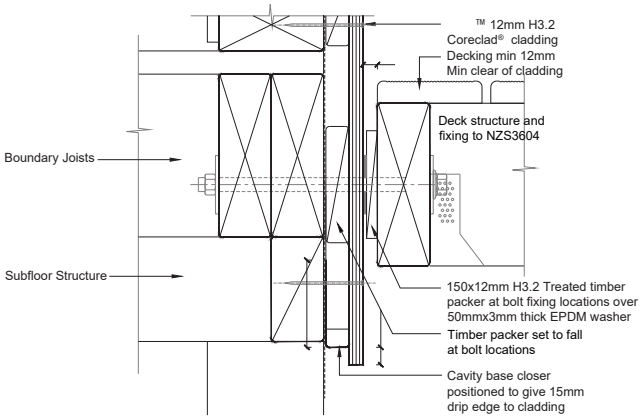

## 2.11 Coreclad® Soffit Junction



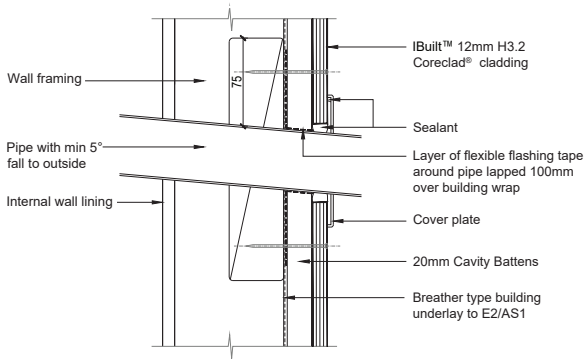

## 2.12 Coreclad® Cladding Base of Wall




## 2.13 Coreclad® Deck Connection Detail




## 2.14 Coreclad® Pipe Penetration Detail




IBuilt™ Coreclad® Ply Cladding is to be installed as per the requirements of Clause E2/AS1 Section 9.8

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