CodeMark
CMNZ30083

DESIGN GUIDE

JSC Board & Batten

Vertical Board and Batten Cladding

Version 1.0 | February 2026

JSC

PREMIUM ARCHITECTURAL
& BUILDING SOLUTIONS

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Cover image: Kerikeri Home | Absolute Build

INTRODUCTION

A timeless and elegant weatherboard system. Board and Batten cladding creates a layered, geometric finish through the use of wide boards on the base with narrow battens on top. The shadow lines add depth and texture to the façade, providing character and offering an intense contemporary look.

GENERAL

This guide covers the scope of use, selection of products, fixing, finishing, and maintenance guidelines for JSC Board and Batten Weatherboard Cladding system.

JSC Board and Batten is a cavity-based external wall cladding system comprising of:

- timber weatherboards finished with suitable coating
- H3.2 treated timber castellated cavity battens
- fascia boards, moulding profiles, and associated components

JSC weatherboards are available in a range of timber species and profiled to JSC specifications, consistent with NZS 3617:1979 and BRANZ BU411.

This guide covers the design and specification of JSC Board and Batten weatherboards when specified over:

- **JSC-U 45×20 Non-Structural Cavity Battens** - 20mm thick castellated cavity battens; or
- **JSC-H 45×45, JSC-V 45×45 and JSC 70×45 Structural Cavity Battens** - 45mm thick castellated cavity battens.

For direct fix installation of JSC weatherboards refer to Acceptable Solution E2/AS1.

BUILDING CODE REGULATIONS

If designed and installed as per JSC technical documents, the JSC Board and Batten Weatherboard System will meet the following provisions of the New Zealand Building Code (NZBC):

- **Clause B1 Structure:** Performance B1.3.1, B1.3.2, B1.3.4 for the relevant physical conditions of B1.3.3 (a), (f), (h), (j), and (m)
- **Clause B2 Durability:** Performance B2.3.1(b) and B2.3.2(b)
- **Clause E2 External Moisture:** Performance E2.3.2, E2.3.5 (contributes to), E2.3.6 (contributes to), and E2.3.7
- **Clause F2 Hazardous Building Materials:** Performance F2.3.1

SCOPE AND LIMITATION OF USE

It is the specifier's responsibility to ensure that:

- the details in this specification are appropriate for the intended application, and
- additional detailing is obtained for a specific design or any areas that fall outside the scope of our Board and Batten CodeMark certificate CMNZ 30083.

JSC Board and Batten system must be installed by a suitably qualified and experienced trade person. Where Restricted Building Work (RBW) applies, the installer shall be a Licensed Building Practitioner (LBP) or supervised by an LBP.

BUILDING ELEMENTS

STRUCTURE AND FRAMING

The performance and appearance of the cladding system rely on the substrate. JSC cladding systems are designed for timber wall framing. However, JSC 45mm Cavity Battens can also be fixed to structures outside of NZS 3604:2011. 45mm Cavity Batten fixings should be determined by an engineer based on fixing tensions required on JSC Structural Cavity Batten Fixing Guide.

Timber framing must be within the framing tolerances of NZS 3604:2011 Section 2.2 and Table 2.1. For specific requirements relating to support for timber weatherboard cladding, refer to Sections 8 and 11 of NZS 3604:2011.

If it is an existing building, the primary structure must be suitable for the intended building work.

WALL UNDERLAY

Wall underlay must comply with E2/AS1 Table C.2.1.1 and E2/AS1 9.1.6. Alternatively, a wall underlay with a Product Certificate (CodeMark) or a BRANZ Appraisal is acceptable provided the conditions of use and scope comply.

Wall underlays (flexible or rigid) shall have a compliant and compatible flexible flashing tape applied to head and sill framing in accordance with E2/AS1 4.2.12 and opening reveals as per E2/AS1 9.1.4.

CAVITY BATTENS

JSC-U 45×20 Non-Structural Cavity Battens are universal cavity battens that can be used either vertically or horizontally. Non-structural cavity battens must be fitted over the nogs and spaced at maximum 480mm centres.

JSC-H 45×45, JSC-V 45×45 and JSC 70×45 Structural Cavity Battens are structural cavity battens that allow additional options to create deeper window reveals and other design elements. Refer to JSC Structural Cavity Batten Fixing Guide for more information on spacings and fixings.

JSC castellated cavity battens are made of H3.2 CCA or MCA treated Radiata Pine which aligns with the principle that the minimum durability for building elements that are enclosed is greater than that for accessible elements.

The top and bottom edges of JSC cavity battens are bevelled to direct moisture away from the building. The front and the back face of the batten have castellations at regular intervals to allow pressures to equalise, moisture to drain, and improve air circulation to aid evaporation.

Proper ventilation is crucial to ensure airflow through the cavity, preventing moisture buildup that could cause damage to the structure like rot, mould, or decay.

TABLE 1 - CAVITY BATTENS

Profile	Description
Non-Structural Cavity Batten	
JSC-U 45mm x 20mm	18° bevelled edges and castellation on both faces
Structural Cavity Batten	
JSC-H 45mm x 45mm	18° bevelled edges and castellation on both faces
JSC-V 45mm x 45mm	Square edges and castelattion on both faces
JSC 70mm x 45mm	18° bevelled edges and castellation on both faces

INTER-STOREY JUNCTIONS

Inter-storey junctions in cladding are required for walls with a maximum of 7 metres in height or over two storeys as per E2/AS1 Paragraph 9.1.8.4.

VERTICAL CONTROL JOINT

For long, uninterrupted walls in high wind zones or buildings that are two storeys or taller, control joints should be placed every 6 metres to accommodate building movement across the wall.

GROUND CLEARANCE

As per E2/AS1 Paragraph 9.1.2 and Table 9.1.2.1, the cladding should, at the ground level:

- Extend past the bottom plate on a concrete slab, bottom of bearer or lowest part of timber floor framing by 50mm
- Finish a minimum of 100mm above a paved surface or 175mm above unpaved surface, and
- Have a minimum 35mm clearance to roof claddings and decks.

DECKS AND DECORATIVE ELEMENTS

Ensure a gap for drainage and cleaning when attaching elements like letterboxes, pergolas, or decorative features to or close to the cladding. E2/AS1 requires a 12 mm minimum gap between slatted timber decks, stringers and external wall cladding, as well as against walls or balustrades for raised surfaces like tiles, pavers, or timber on weathertight decks.

CAVITY CLOSER/VERMIN PROOFING

Specify cavity closer/vermin proofing in compliance with E2/AS1 9.1.7.5, 9.1.7.6, 9.1.7.7 and Figure 9.1.7.4A to close off the bottom of the cavity. Ensure it is placed at the base of all walls, open horizontal or raking junctions, and over openings (windows, penetrations, etc.). Size the cavity closer/vermin-proofing to fit the cavity dimensions.

FLASHINGS

As per E2/AS1 9.2.4:

- Flashing materials should comply with E2/AS1 Table C.1.1.1A and meet the compatibility of E2/AS1 Table C.1.1.1B and Table C.1.1.1C.
- Ensure that flashing materials are compatible with both the window frame and cladding, including their fixings. Windows to comply with NZS 4211:2022.

NAIL FIXINGS

Annular grooved nails must be used to fix JSC Board and Batten weatherboards. The nail length must allow a minimum of 30mm embedment into the framing for non-structural cavity batten and a minimum of 35mm embedment into structural cavity batten. JSC weatherboards must be pre-drilled with a slight upward slope (0-2°). The hole should be approximately 1mm smaller than the nail shank to reduce the risk of moisture entry.

Note: For example, for a 75 × 3.25mm nail, use a 2.5mm drill bit.

Oil/Stain Finish – Use annular grooved Rose Head, Pentagon Head or Flat Head.

Paint Finish – Use annular grooved Jolt Head, Flat Head, Pentagon Head or Rose Head.

In certain circumstances, screw fixing of weatherboards is acceptable. Please refer to the JSC Screw Fixing Cladding Guide for further information.

TABLE 2 - FIXINGS INTO FRAMING

Framing	Cavity Batten	Weatherboard Fixing
Timber Framing	45mm x 20mm (Non-Structural)	Annular grooved nail with 30mm minimum embedment into **timber frame**
	45mm x 45mm or 70mm x 45mm (Structural Fixing)	Annular grooved nail with 35mm minimum embedment into **cavity batten**

TABLE 3 - NAIL FIXINGS

Species	Nail Material	
Western Red Cedar *(Thuja plicata)*	316 Stainless Steel or Silicon Bronze	
Alaskan Yellow Cedar *(Callitropsis nootkatensis)*		
Radiata Pine *(Pinus radiata)*		
Nordic Pine *(Pinus sylvestris)*		
JSC TMT Thermally Modified Species	**Nail Material**	
TMT Taiga	316 Stainless Steel or Silicon Bronze	Flat Head, Rose Head or Pentagon Head only
TMT Taxon		
TMT Amba		
TMT ThermoPine		
TMT ThermoPine - H3.2 (MicroPro® treated)		

Notes:

- Silicone bronze fixings may cause copper leaching. This effect is more noticeable with lighter finishes. It is aesthetic and does not compromise the durability of the fixing.
- For the use of any alternative fixing of equivalent properties refer to E2/AS1 Table C.3.1.1 and to E2/AS1 Table C.1.1.1A for alternative material selection.
- JSC recommends fixing materials as per **Table 3 - Nail Fixings**, as they will at least match the life of the cladding (E2/AS1 allows the use of galvanised fixings, although JSC does not endorse their use).
- Jolt head nails are only suitable for paint finished weatherboards.
- For buildings located in exposure 'Zone D', 316 stainless steel fixings must be used as per NZS 3604:2011.

PRODUCT SELECTION

WEATHERBOARDS

JSC weatherboards are available in a wide variety of species, sizes, and profiles, providing design flexibility and innovation. When choosing a weatherboard for your project, consider:

Species

The choice of timber species is typically influenced by factors such as aesthetics, sustainability, durability, workability, dimensional stability, base colour and grain variation, cost, coating preferences, availability or other site specific requirements.

See **Table 4 - Weatherboard Species and Specification** for the list of JSC cladding species.

Weatherboard Profile

JSC manufactures weatherboards according to JSC specifications, aligning with NZS 3617:1979 and BRANZ BU411. Various profiles are available (see **JSC Profile Chart**), and customized profiles can be crafted upon request to complement specific designs.

Surface Finishes

JSC weatherboards are available in Bandsawn finish. Dressed or Brushed finishes are also available depending on chosen species and coating.

- **Bandsawn Finish:** Accentuates the timber's natural texture, ensuring a longer-lasting coating by increasing the surface area for stain absorption.
- **Dressed Finish:** Provides a smooth face that is preferable for painting. Dressed weatherboards will required sanding before coating with either paint or stain. Follow the sanding requirements of coating manufacturer specification.
- **Brushed Finish:** Involves using wire bristles to gently scrape the timber surface, highlighting the wood grain and creating a vibrant textured appearance.

Coating

JSC weatherboards must be coated using a suitable coating (exterior grade timber cladding coating — refer to the manufacturer's guidance for use and suitability) and applied according to the manufacturer's specification.

Weatherboards can be supplied either pre-finished with a factory-applied base coat or raw. If supplied raw, a base coat must be applied on-site to all sides and cut ends before installation. No claims will be accepted for contamination on weatherboards delivered uncoated.

Note: Only weatherboards coated on all sides in suitable coating comply with JSC CodeMark certification.

Pre-coated Weatherboards

JSC highly recommends a factory-applied base coat for a premium finish on all sides. This controlled process reduces weather delays, human error, and contamination from dust and debris.

When using Radiata Pine weatherboards, the paint colour's Light Reflectance Value (LRV) must be at least 45% to minimise dimensional movements that can cause cupping and splitting.

Note: Follow coating manufacturer specifications at all times.

Note: For information on maintaining coatings refer to JSC Maintenance Guide.

TABLE 4 - WEATHERBOARD SPECIES AND SPECIFICATION

Species	Width	Thickness	Length Spread	Grades	Surface Finish
Western Red Cedar	Up to 300mm	18.5-39mm	Random & Select	PC1, PC2, STK,FJ, and Engineered	Bandsawn / Dressed
Alaskan Yellow Cedar	Up to 200mm	18.5mm	Random	Clears	Bandsawn / Dressed
Radiata Pine - H3.2 (MicroPro® treated)	Up to 200mm	20mm	Random	Clears 1	Bandsawn / Dressed
Nordic Pine - H3.2 (MicroPro® treated)	Up to 150mm	20mm	Random	STK	Bandsawn / Dressed
JSC TMT - Thermally Modified Timber Species					
TMT Taiga	Up to 150mm	18.5mm*	Random	STK	Bandsawn / Brushed
TMT Taxon	Up to 200mm	18.5mm*	Random	Clears	Bandsawn / Dressed / Brushed
TMT Amba	Up to 200mm	18.5mm*	Random	Clears	Bandsawn / Dressed / Brushed
TMT ThermoPine	Up to 200mm	18.5mm	Random	Clears	Bandsawn / Dressed / Brushed
TMT ThermoPine-H3.2 (MicroPro® treated)	Up to 200mm	18.5mm	Random	Clears	Bandsawn / Dressed / Brushed

Note: More species, grades, profiles, sizes, and select length options may be available on request.

*20mm available on request.

INSTALLATION

For installation requirements regarding wall framing, wall underlay, cutting and positioning cavity battens and flashings, refer to Board & Batten Installation Guide.

WEATHERBOARD INSTALLATION

JSC weatherboards must be pre-drilled with a slight upward slope (0-2°). The hole should be approximately 1mm smaller than the nail shank to reduce the risk of moisture entry.

Note: For example, for a 75 × 3.25mm nail, use a 2.5mm drill bit.

Single fix each board and each batten to achieve a minimum of 30mm fixing penetration into the timber framing or 35mm into the structural cavity batten.

NOTE: Scribers must be bedded in sealant to weatherboards for weathertightness.

Refer to **Table 2 - Fixings into Framing**.

Clinch Nails (Optional)

If desired, 40mm x 2.0mm stainless steel clinch nails can be used to secure the boards until they are nailed off.

Guidelines for Using Clinch Nails:

- Clinch nails are optional. They serve as an aid to installation only and do not contribute to fixing or affect the overall set-out of the weatherboards.
- Clinch nails cannot be fully relied upon as a layout gauge. For accurate alignment of weather grooves and setting the expansion gap, use a precise packer to set the negative detail.
- For shorter boards, place one clinch nail in the middle and use additional clinch nails to maintain even spacings. Ensure they are under 1.8 metres apart.
- Clinch nails do not reduce the number of weatherboard nails required.

Scribers

Ensure scribers extend at least 5mm past the joinery sill and are bevelled back to the wall at an angle of 30-45°. Keep in mind that scribers and small decorative profiles are more prone to splitting and decay. They may only last 5 years in certain situations. Yearly maintenance cycles should be followed to keep integrity and to determine if re-coating, or replacement is needed.

Fix scribers and decorative trims using short screws or nails (35-50mm long) that do not penetrate the framing.

MAINTENANCE

Building owners are responsible for the maintenance of their JSC weatherboards. Annual inspections must be made to ensure that all aspects of the cladding remain in a weatherproof condition. Repair to damaged areas and maintenance where signs of deterioration are evident, must be addressed promptly. Repairs to sealants, coatings, flashings, scribers, decorative elements and weatherboards must follow the relevant manufacturer's instructions. Weatherboards should be washed when surface dirt, pollen, or organic matter accumulates. In environments such as bush areas or locations with high seasonal pollen, cleaning may be required more frequently. For further information refer to the latest JSC Maintenance Guide.

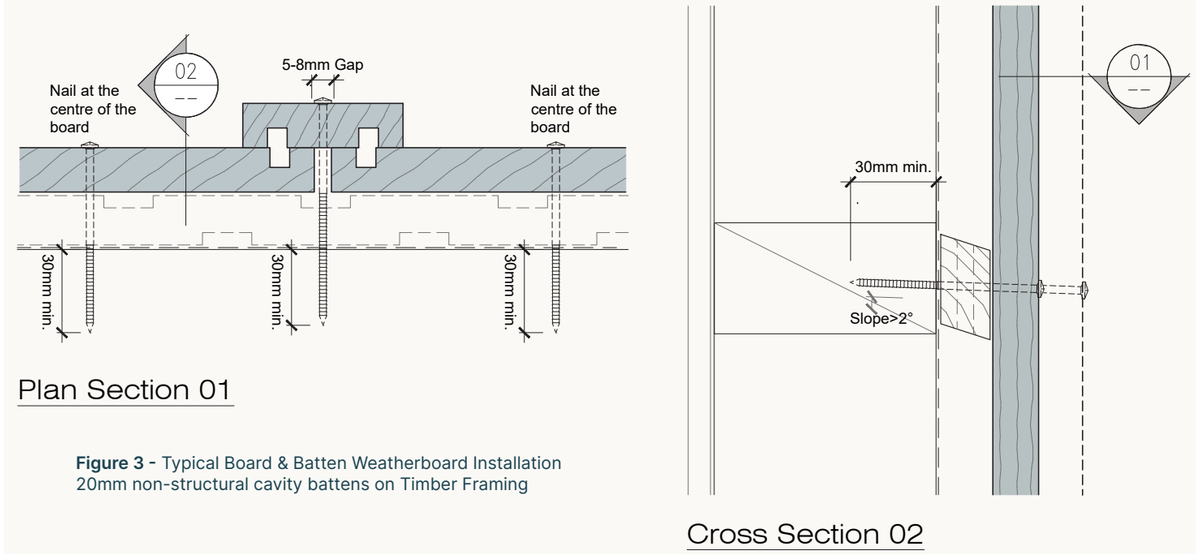

Figure 3 - Typical Board & Batten Weatherboard Installation 20mm non-structural cavity battens on Timber Framing

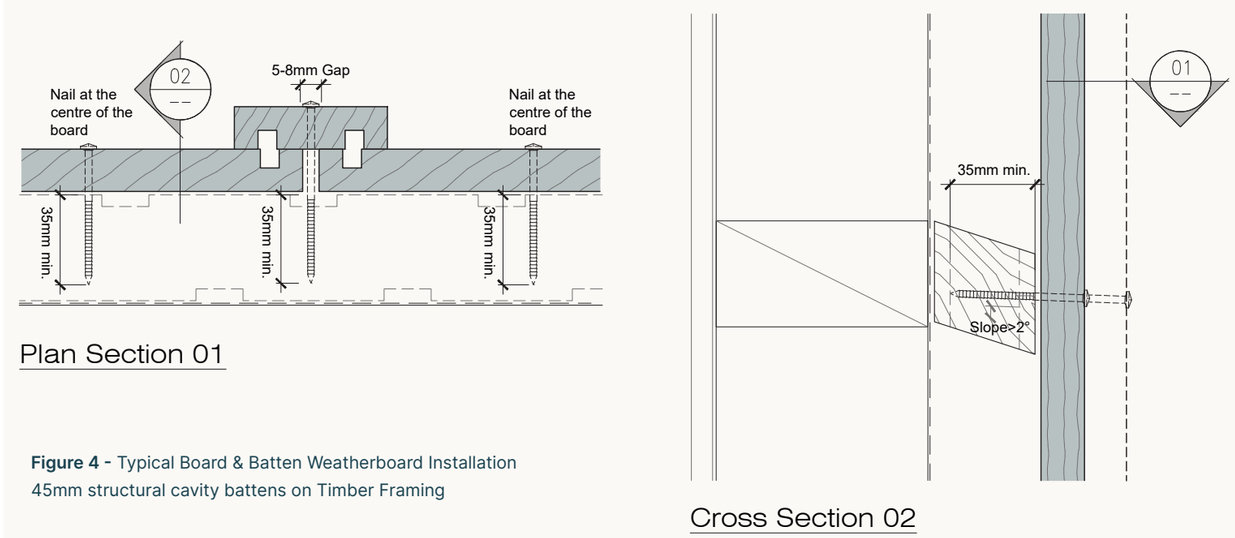

Figure 4 - Typical Board & Batten Weatherboard Installation 45mm structural cavity battens on Timber Framing

When fixing cavity battens to framing, avoid fixing them on their centre line. Stagger the cavity battens fixings to prevent interference with weatherboard fixings.

Note: Exposed Board Ends - Where vertical weatherboards have an exposed bottom edge such as at the Bottom Plate, Window Heads, Inter-storey and Overhead Soffit junctions, the bottom of the boards should be cut back at 15 degrees to form a drip edge. The cut end should be coated 150-200mm from the bottom edge, up the back of the board. In the case of paint, sharp edges should be eased, the primer should be brushed thoroughly into the cut end, up the back and then top-coated. The areas where board ends are visually exposed must be checked as part of every coating maintenance inspection.

BUILDING CONSENT APPLICATION

THE PROCESS

When specifying JSC Board and Batten for your project, ensure the following steps are followed:

1. **Confirm the proposed use aligns with the scope and limitations of the current CodeMark certificate.**
2. **Verify that the framing and wall underlay meet the required standards.**
3. **Specify the appropriate cavity battens for the project.**
4. **Select relevant construction details applicable to your project.**
5. **Specify the required coating for the cladding.**

REQUIRED DOCUMENTATION

Include the following documents on the building consent application:

- **CodeMark Certificate: CMNZ30083**
- **Board & Batten Design Guide**
- **Board & Batten Installation Guide**
- **Board & Batten Checklist**
- **JSC Maintenance Guide**
- **Relevant Construction Details:**
  - JSC 20CF - JSC Board and Batten System_Flexible Underlay_20mm Cavity
  - JSC 20CR - JSC Board and Batten System_Rigid Underlay_20mm Cavity
  - JSC 45CF - JSC Board and Batten System_Flexible Underlay_45mm Cavity
  - JSC 45CR -JSC Board and Batten System_Rigid Underlay_45mm Cavity

FOR TECHNICAL DRAWINGS

Visit the below link or scan the QR code for easy access.

jsc.co.nz/products/board-batten-cladding

SCAN ME

APPENDIX 1

BOARD AND BATTEN SYSTEM ACCESSORIES

Head Flashing

- Sizes as per E2/AS1 Table 4.5.1.1
- In accordance with E2/AS1 Paragraph 9.1.10 or window manufacturer's instructions
- Usually supplied by joinery companies
- JSC do not recommend hooks or hems. Therefore, the flashing upstand dimensions must be increased by 25mm in accordance with E2/AS1, Paragraph 4.4.3.
- JSC recommends a flexible cavity closer at window heads to accommodate accessory buildup and batten machining

Window Joinery

- To be in installed accordance with E2/AS1 Paragraph 9.1.9 and SNZ TS 4211:2022 and be compliant with BPS Subsection 4.4.1

Back Flashing

- Recommended min. 50mm coverage from any butt joint
- Materials to comply with E2/AS1 Table C.1.1.1A
- For PVC or other flexible materials, ensure flashing maintains contact with the back of cladding. If required, use extra cavity batten.

Cavity Closer

- Size to suit cavity
- Materials to comply with E2/AS1 9.1.7.5, 9.1.7.6, 9.1.7.7 and Figure 9.1.7.4A or be covered by CodeMark or a BRANZ Appraisal, provided they comply with the conditions of use and scope
- Minimum vent 1000mm^2 / linear meter

Pipe Penetration Boot

- To comply with E2/AS1 Paragraph 9.1.8.3 or be covered by CodeMark or a BRANZ Appraisal used within the scope
- To be installed as per manufacturer's specifications

Corner Flashing

- Sizes as per E2/AS1 Table 4.5.1.1 and Paragraph 4.4.3
- Materials to comply with E2/AS1 Table C.1.1.1B and Table C.1.1.1C
- For PVC or other flexible materials, ensure flashing maintains contact with the back of cladding. If required, use extra cavity batten.
- When using 45mm structural cavity battens, do not use flexible corner flashings. The cavity batten positioning will not provide the necessary support for these flashings.

BOARD AND BATTEN SYSTEM ACCESSORIES

Saddle Flashing

- In accordance with E2/AS1 Figure 6.2.3.1B

Cap Flashing

- Must be in accordance with E2/AS1 Paragraph 7.5.5

Z Flashing

- JSC do not recommend hooks or hems. Therefore, the flashing upstand dimensions must be increased by 25mm in accordance with E2/AS1, Paragraph 4.4.3.
- In accordance with E2/AS1 Paragraph 9.1.8.4.

Weatherboard Fixings - Stain Finish

- Materials to comply with E2/AS1 Table C.1.1.1B and Table C.1.1.1C
- Fastener length and position per E2/AS1 Table C.3.1.1
- Stainless steel or silicon bronze annular grooved Rose Head, Pentagon Head and Flat Head

Weatherboard Fixings - Paint Finish

- Materials to comply with E2/AS1 Table C.1.1.1B and Table C.1.1.1C
- Fastener length and position per E2/AS1 Table C.3.1.1
- Stainless steel or silicon bronze annular grooved Jolt Head, Flat Head, Pentagon Head and Rose Head

Wall Underlay (Flexible or Rigid)

- To comply with E2/AS1 Table C.2.1.1 or be covered by CodeMark or a BRANZ Appraisal used within the scope
- Installed and handled per manufacturer's specification

Flashing Tape

- To comply with E2/AS1 Paragraph 4.2.12 or be a product with a CodeMark or a BRANZ Appraisal used within the scope
- To be compatible with wall underlay

Clouts

- Materials to comply with E2/AS1 Table C.1.1.1B and Table C.1.1.1C
- Nail length and position per E2/AS1 Table C.3.1.1
- Stainless steel

Other Fixings

- Any other fixing shall comply with NZS 3604:2011 for timber framing

Sealant

- To comply with E2/AS1 Paragraph 9.1.5
- To be compatible with coating and other elements

Coating

- Should be suitable to use as external cladding coating
- All weatherboards are recommended to be delivered to site with a minimum of one coat of selected coating on all four sides
- Coat the cut ends with two coats wet on wet
- Subsequent coats are done after the installation
- Follow the manufacturer's specifications at all times

APPENDIX 2

EXTERNAL REFERENCE

- MBIE NZ Building Code Clause E2 External Moisture (refer to www.building.govt.nz)
- Department of Building and Housing (DBH). 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/BU468)
- BRANZ [May 2015] Good Practice Guide: Timber Cladding (refer to www.branz.co.nz)
- BRANZ Build 154-33- Build Right Structurally Fixed Cavity Battens (refer to www.buildmagazine.org.nz)
- BRANZ Build 173-28- Build Right Coatings for Timber Weatherboards (refer to www.buildmagazine.org.nz)
- BRANZ Bulletin BU531 [February 2011] Designing for Thermal and Moisture Movement (refer to www.branz.co.nz/BU531)
- Window & Glass Association NZ (WGANZ) (refer to wganz.org.nz)
- NZS AS 1720.1:2022 (refer to www.standards.govt.nz)
- NZS 3604:2011 Timber-framed buildings (refer to www.standards.govt.nz)

Disclaimer: It is the responsibility of the designer/specifier to ensure the suitability and specification of any third-party accessories used with our cladding system. JSC is not liable for the installation of any components or accessories not supplied by us. For guidance on using specific components, please refer to our Technical Installation Details and Installation Guides. If there is any uncertainty, please seek expert advice.

The related documents mentioned above were accurate and up to date at the time of writing this guide. However, please note that information may have changed since then, and we recommend verifying any external sources for the most current information.

JSC

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