



JSC RustiClad

Horizontal Rusticated Weatherboard Cladding

Version 3.4 | August 2023



PREMIUM ARCHITECTURAL
& BUILDING SOLUTIONS

Contents

Introduction	3
Design Elements	4
Selection	6
Pre-Installation	7
Installation	9
Appendix	12

INTRODUCTION

JSC Rusticated Weatherboards are extremely versatile and offer unique horizontal negative lines that accentuate the grain structure and natural beauty of timber cladding. Rusticated weatherboards have evolved over recent years with new and innovative Architectural profiles re-establishing the range to suit the current design methods. JSC offers a range of various widths and depth profiles to complement both modern and traditional designs.

GENERAL

This guide covers the recommendations for the correct scope of use, storage & handling, fixing, finishing and maintenance guidelines for JSC RustiClad Rusticated Weatherboard Cladding system.

JSC RustiClad is a cavity-based external wall cladding system comprising of:

- timber weatherboards finished with high quality exterior grade coating options
- H3.2 treated timber cavity battens to form either a 20mm cavity or a 45mm cavity
- fascia boards and moulding profiles

JSC weatherboards are available in a range of timber species and profiled to JSC specifications, consistent with [NZS 3617](#) and [BRANZ BU411](#).

This specification and installation guide covers the installation of JSC Vertical Shiplap weatherboards when fixed vertically over:

- **JSC-U 20 mm thick castellated cavity battens ; or**
- **JSC-H 45 mm thick castellated cavity battens**

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

BUILDING CODE REGULATIONS

The JSC RustiClad Rusticated Weatherboard System if designed and installed as per this literature, 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 (a), (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, E2.3.3, E2.3.5, E2.3.7(b) and (c)
- **Clause F2 Hazardous Building Materials:** Performance F2.3.1

SCOPE AND LIMITATIONS OF USE

JSC RustiClad 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.

It is the specifier’s responsibility to ensure that the details in this specification are appropriate for the intended application and that additional detailing is obtained for a specific design or any areas that fall outside the scope of our RustiClad CodeMark certificate [CMNZ30081](#).

DESIGN ELEMENTS

STRUCTURE AND FRAMING

The substrate must be within the framing tolerances of [NZS 3604](#) Section 2 and Table 2.1. Also refer to [NZS 3604](#), Sections 8 and 11 – for specific requirements relating to support for timber weatherboard cladding.

In all cases studs must be spaced at maximum 600 mm centres with nogs/dwangs fitted flush between the studs at maximum 800 mm centres.

WALL UNDERLAY

Wall underlay must comply with [E2/AS1 Table 23](#). Alternatively, a wall underlay with a Product Certificate (CodeMark) or a BRANZ Appraisal are acceptable provided the conditions of use and scope comply.

CAVITY BATTENS

JSC-U 20 mm x 45 mm cavity battens are universal non-structural cavity battens that can be used both vertically and horizontally. Non-Structural Cavity battens must be fitted over the studs.

JSC-H 45 mm x 45 mm & 70 mm x 45 mm cavity battens are structural cavity battens and allow additional options to create deeper window reveals and other design elements.

INTER-STORY JUNCTIONS

Inter-storey junctions in cladding are required for walls with a maximum of 7 meters in height or over two stories as per [E2/AS1 Paragraph 9.1.9.4](#).

GROUND CLEARANCE

As per [E2/AS1 Paragraph 9.1.3](#) and [Table 18](#), at the ground level the cladding should

- Extend past the bottom plate on a concrete slab by 50 mm, and
- Finish a minimum of 100mm above paved surface or 175mm above unpaved surface.

CAVITY CLOSER/VERMIN PROOFING

Use cavity closer/vermin proofing in compliance with [E2/AS1 Paragraph 9.1.8.3](#) and [Figure 66](#). Install cavity closer/vermin-proofing 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 is to suit the cavity.

FLASHINGS

As per [E2/AS1 Section 4.0](#)

- Flashing material should comply with [E2/AS1 Table 20](#) and meet the compatibility of [E2/AS1 Table 21](#) and [Table 22](#).
- Ensure that materials used for flashings are compatible with the window frame materials and fixings and cladding materials and fixings. Windows to comply with [NZS 4211](#).
- Flashing materials for the flashings that are not easily replaceable should have an expected life longer than cladding typically 25–50 years.

Note: It is strongly recommended to use min 1.2mm thick aluminium flashing and install colour steel flashing only at an easily replaceable location. Provide adequate support for plastic flashings.



NAIL FIXINGS

Annular grooved nails must be used to fix JSC RustiClad weatherboards. The nail length must allow a 35mm minimum embedment into the framing or structural cavity batten. JSC weatherboards must be pre-drilled with a slight (2°+) upward slope, 1 mm smaller than the nail shank to reduce the risk of moisture entry.

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

Paint Finish – Use annular grooved Jolt head, Countersunk or Rose Head.

TABLE 1 - NAIL FIXINGS	
Specie	Nail Material
Western Red Cedar (Thuja plicata)	316 stainless steel or silicon bronze
Alaskan Yellow Cedar (Callitropsis nootkatensis)	316 stainless steel or silicon bronze
Iroko (Milicia excelsa / Milicia regia)	316 stainless steel or silicon bronze
Radiata Pine (Pinus radiata)	316 stainless steel or silicon bronze or hot dipped galvanised
JSC TMT Thermally Modified Species	Nail Material
TMT Taiga (RW/WW)	Stainless steel only
TMT Taxon	Stainless steel only
TMT Tuscan	Stainless steel only

Note: Refer to [E2/AS1 Table 24](#) for the use of any alternative nail or screw of equivalent properties.

SELECTION

JSC weatherboards are offered in a wide selection of species, sizes and profiles which offer infinite design flexibility and scope for innovation.

Factors like site location, wind zones, coatings, and local weather conditions must be considered to ensure that the selected weatherboard performs as intended.

WEATHERBOARDS

Selection of a suitable weatherboard type is an important step that influences the service life of the cladding. Some of the key things to consider while selecting weatherboards:

Species

The choice of timber specie is normally based on aesthetics, durability, workability, movement and stability, cost, coating choice, and availability.

See [Table 3 - Weatherboard Species and Specifications](#) for the list of JSC range of cladding species. All species are carefully chosen to meet all the design needs.

Weatherboard profile

The choice of weatherboard profile predominately comes down to the aesthetics. All JSC weatherboards are profiled to JSC specifications and are compliant with [NZS3617:2019](#) and [BRANZ BU411](#) (April 2011).

JSC weatherboards are available in range of profiles. Custom weatherboards are also available on request to suit the building aesthetic.

Finishes

JSC weatherboards come in Bandsawn Face or Dressed Face.

A Band Sawn finish accentuates the natural texture of the timber and increases the effective surface area for different stains– resulting in a longer lasting coating.

A Dressed finish provides a smooth face that is preferable for painting. Dressed weatherboards will require sanding before coating with either paint or stain. Follow the sanding requirements of coating manufacturer specification.

CAVITY BATTEN

JSC cavity battens are made of H3.2 CCA treated Radiata Pine.

TABLE 3 - WEATHERBOARD SPECIES AND SPECIFICATION

Specie	Width	Thickness	Length Spread	Grades	Surface Finish*
Western Red Cedar	Up to 250mm	18.5-39mm	Random & Select	PC 1, STK,FJ, and Engineered	Bandsawn & Dressed
Alaskan Yellow Cedar	Up to 150mm	22mm	Random	PC 1	Bandsawn
Radiata Pine	Up to 200mm	20mm	Random	Clears 1	Bandsawn & Dressed
Iroko	Up to 150mm	21mm	Random	FAS	Bandsawn
JSC TMT - Thermally Modified Timber Species					
TMT Taiga (RW/WW)	Up to 200mm	18.5mm	Random	STK	Bandsawn
TMT Taxon	Up to 200mm	18.5mm	Random	Clears	Bandsawn
TMT Tuscan	Up to 200mm	18.5mm	Random	Clears	Bandsawn

Note: More species, grades, profiles, sizes, and select length options may be available on request.
* More surface finishes can be made available to meet the aesthetic requirements.

PRE-INSTALLATION

COATING

JSC weatherboards must be coated using an exterior grade premium coating. Coating should be selected and used according to the manufacturer's specification.

Weatherboard coating is done in two phases:

- Base coat(s) applied to all sides before installation; and
- Top Coat(s) applied after installation

Weatherboards can be supplied on site Pre-Finished i.e. a factory applied base coat(s) or raw. When supplied raw the base coat(s) are to be applied on site before installation.

Pre-Finished Weatherboards

JSC strongly recommends that a factory coating

system is used, as the coating is applied in a controlled environment ensuring a premium finish on all four sides of the weatherboard. Factory coating will minimise weather-related delays, human error, and chances of contamination from construction dust and debris.

On-Site Coating

When weatherboards are delivered raw on site the base coat(s) are applied on site prior to installation. At a minimum, coating must be carried out as per the instructions below:

- All 4 sides of the weatherboards must be stained or primed with exterior grade premium coating before installation according to the coating manufacturer's specification.

- During the installation all the cut ends must be coated twice.
- Top coat(s) of selected coated must be applied on all the visible areas of cladding. Refer to the Finishing section of the document for further info.

Note: Follow coating manufacturer specifications at all times.

DELIVERY, STORAGE, AND HANDLING

Correct handling and storage of JSC weatherboards is critical for best performance, ease of use and warranty compliance.

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

Note: Use of slings or chains must be avoided as they damage the timber.

Stack weatherboards horizontally in a dry area, clear of the ground by 100 mm and supported on dry, clean timber bearers at a maximum of 900 mm centres. Keep weatherboards always dry; either by storing within an enclosed building or use an additional weatherproof cover as a secondary protection to JSC packaging wrap if stored outside, but also ensure that there is sufficient airflow to avoid condensation. Avoid storing over standing water or vegetation.

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

to weatherboard edges and surfaces, especially during installation.

Note: Some coatings may require weatherboards to be separated or slip sheeted when in storage.

HEALTH AND SAFETY

When handling JSC products or using tools, use appropriate PPE; including but not limited to eye, ear and breathing protection for you and others who could be affected. Offcuts and sawdust of treated and/or coated timber are to be disposed of in accordance with local council requirements. Follow other manufacturer's advice on the use, handling and disposal of other products such as coatings and adhesives.

MOISTURE MANAGEMENT

The moisture content of the framing must be less than 20% at the time of weatherboard fixing. Immediately before installation, test the moisture content of the boards. Use a moisture meter to test 5% boards, but not less than 10 boards, in the centre of the length

If the boards show signs of dimensional swelling allow time for drying. Do not start fixing until 90% of the values obtained are within the range in [NZS 3602](#) Table 4 at the time of installation. Ensure that at the time of cladding installation the battens moisture content is no greater than 20%

INSTALLATION

JSC RustiClad System must be installed by a suitably qualified and experienced trades person. Where Restricted Building Work (RBW) applies the installer shall be a Licensed Building Practitioner (LBP) or supervised by LBP.

PRIMARY STRUCTURE AND WALL UNDERLAY

Ensure that the substrate is straight and true. Wall underlay must be installed over the framing directly under the cavity battens. The building wrap can be restrained from bulging into the drained cavity by applying polypropylene tape at 300 mm centres. Trimmed openings are to be prepared as per [E2/AS1 Paragraph 9.1.5](#).

CAVITY CONSTRUCTION

Non-Structural Cavity Battens

JSC-U 45 mm x 20 mm battens are fixed temporarily with 50 mm stainless steel clouts over the wall underlay and then firmly fixed by cladding fixings with a 35 mm minimum penetration into the wall framing studs as per [E2/AS1 9.1.8.5](#).

Install JSC-U H3.2 treated castellated batten with 18°degree slope, sloping away from the wall underlay towards the back of the weatherboard ensuring water is shed away from the framing when installed horizontally.

Ensure cavity battens are spaced 10 mm from each other on ends/joints, internal and external corners and when parallel.

For Very High (VH) and Extra High (EH) wind zones (as defined [NZS 3604: 2011](#)), a solid batten (non-castellated) is required down one significant side of the external corner to provide pressure isolation between elevations.

Structural Cavity Battens

The JSC 45mm castellated batten is outside the scope of E2/AS1, which is limited to a nominal 20 mm thick cavity battens. The 20 mm batten in E2/AS1 is a packer only, whereas the 45 mm x 45 mm or 70 mm x 45 mm battens become a structural wall component.

The fastenings to secure JSC structural cavity battens must have a fixing tension of 1.8kN for up to VH wind zones and 2.2 kN for EH wind zones per lineal meter of the batten to transfer all applied loads back to the framing.

All accessory components including vermin proofing, cavity closures, back flashings and head flashings are designed to accommodate the cavity.

FLASHINGS

Flashings at corners, doors, windows and wall intersections must be installed to prevent water from entering the cavity.



Figure 1 - Typical Vertical Shiplap Weatherboard Installation

NOTE: The bottom boards of any wall should have an additional coat to the exposed back of the board to ensure waterproofing and should then be top-coated wherever visually exposed – E.g. at the outside bottom edge of the soffit

WEATHERBOARD INSTALLATION

Before weatherboards are installed make sure

- Weatherboards are dry and free of any contamination before installation.
- Weatherboards have an envelope of exterior grade coating on all 4 sides, including cut ends.
- Optimisation of the board lengths is done to avoid any unnecessary wastage and joints.
- Any loose or bark encased knots or significant timber defects need to be removed during installation.
- Necessary flashings are installed.
- Back flashing is used behind the cladding at all corners to ensure weatherproofing of corners. Cavity closure is installed continuously around the bottom of the cavity
- Openings in cavity closer/vermin-proofing are kept clear and unobstructed to maintain draining and venting of the cavity

- For windows and doors, head flashing stop ends are in place

Using a laser or mechanical devices set-out all nailing accurately in straight lines. Align weather grooves to ensure there is a 2mm expansion gap between lapped boards. During installation, cut ends must be double sealed.

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

As per E2/AS1 Table 24 single fix each weatherboard 35 mm from the overlapping edge of the weatherboard (10 mm above the top of lower board) to achieve a minimum of 35 mm fixing penetration into the framing.

NOTE: Scribes must be bedded in sealant to weatherboards for weatherproofing.

Optional Clinch Nails

40 mm x 2.0 mm grade 316 stainless steel may be used to retain hidden lap tongues of weatherboard profiles. Clinch nails are not a requirement of JSC or E2/AS1 and are an aide to installation only.



Rolleston House | Coll Architecture

FINISHING

Oiled/Stained Finish

- All cut ends and/or uncoated surfaces shall be double coated during installation to protect against moisture.
- Apply the top coat of selected stain as per the coating manufacturer's instructions.
- Finish the nail heads flush onto and not into the board surface.
- Do not 'overdrive' the nail head and crush the timber surface beneath and around the nail.

Paint Finish

- Remove all sharp edges to provide a radius to aid in the uniform paint finish.
- Prime all cut ends and bare timber surfaces twice with a premium alkyd primer.
- Nails are to be punched and the holes to be primed without delay.
- Fill holes with a suitable filler. Filled holes to be primed again and sanded once dry.
- Ensure the surface is clean and free from any contaminants before applying the top coats.

- Apply two top-coats allowing time for drying between coats.

Note: Sharp edges should be sanded to help paint film strength and primer at the ends should be thoroughly brushed into fully seal against moisture which may allow tannin through the primer and affect the topcoats. Follow the coating manufacturer specifications at all times.

QUALITY CHECK

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

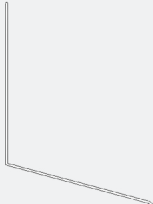
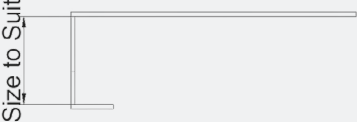
MAINTENANCE

Building owners are responsible for the maintenance of their JSC weatherboards. Annual inspections by a suitable person 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 immediately. For further information refer to the latest [JSC Cladding Maintenance Guide](#).

See [BRANZ Good Practice Guide Timber Cladding 3rd edition for more information](#).

APPENDIX 1

RUSTICLAD SYSTEM COMPONENTS

	<p>Corner Flashing</p> <ul style="list-style-type: none">Minimum 30mm coverage past any butted joint<ul style="list-style-type: none">For low to high wind zones, use hemmed min 50×50; or unhemmed 75×75.For extra high and very high wind zones, use hemmed 75×75; or unhemmed 100×100Materials to comply with E2/AS 1 of E2/AS1 Table 21 and Table 22.For PVC or other flexible materials ensure flashing maintains contact with the back of cladding if required use extra cavity batten
	<p>Head Flashing</p> <ul style="list-style-type: none">Must be a minimum upstand of 35mm, 75mm in EH wind zoneIn accordance with E2/AS1 Paragraph 9.1.10.4 or window manufacturer's instructionsUsually supplied by joinery companiesRefer to JSC Window Technical details
	<p>Flat Back Flashing</p> <ul style="list-style-type: none">Recommended 100mm wide with minimum 30mm coverage from any butt jointMaterials to comply with E2/AS1 Table 20For PVC or other flexible materials ensure flashing maintains contact with the back of cladding if required use extra cavity batten
	<p>Z Flashing</p> <ul style="list-style-type: none">Must have a minimum upstand of 75mm, in EH wind zones use hemmed flashingsIn accordance with E2/AS1 Paragraph 4.6.1.7Refer to JSC Horizontal Joint technical detail
	<p>Cap Flashing</p> <ul style="list-style-type: none">Must be in accordance with E2/AS1 Paragraph 6.4Refer to JSC Parapet technical detail
	<p>Cavity Closer</p> <ul style="list-style-type: none">Size to suit cavityMaterials to comply with E2/AS1 Paragraph 9.1.8.3; orCovered by CodeMark or a BRANZ AppraisalMinimum vent 1000mm² / linear meter
	<p>J Mould</p> <ul style="list-style-type: none">65mm X thickness of the weatherboardMaterials to comply with E2/AS1 Table 20 or covered by CodeMark or a BRANZ Appraisal

	<p>Corner Soakers (External Corners)</p> <ul style="list-style-type: none">Materials: Stainless steel; Copper; Aluminium + Powder Coated; Galvanized + Painted on all sidesMaterials to be in accordance with E2/AS1 Paragraph 4.3.2 to 4.3.8
	<p>Flat Soakers (Scarf or Splay Joint)</p> <ul style="list-style-type: none">Materials - Stainless steel; Silicone Bronze; Aluminium; GalvanizedMaterials to be in accordance with E2/AS1 Paragraph 4.3.2 to 4.3.8
	<p>Weatherboard Fixings - Stain Finish</p> <ul style="list-style-type: none">Materials to comply with E2/AS1 Table 21 and Table 22Nail length and position per E2/AS1 Table 24Stainless steel or Silicone bronze Annular grooved Rose Head, Pentagon Head and Flat Head
	<p>Weatherboard Fixings - Paint Finish</p> <ul style="list-style-type: none">Materials to comply with E2/AS1 Table 21 and Table 22Nail length and position per E2/AS1 Table 24Stainless steel or Silicone bronze Annular grooved Jolt Head, Countersunk and Rose Head
	<p>Clouts</p> <ul style="list-style-type: none">Materials to comply with E2/AS1 Table 21 and Table 22Nail length and position per E2/AS1 Table 24Stainless steel or Silicone bronze Annular grooved Jolt Head, Countersunk and Rose Head
	<p>Other Fixings</p> <ul style="list-style-type: none">Any other fixing shall comply with NZS 3604 or other relevant documents
	<p>Wall Underlay</p> <ul style="list-style-type: none">To comply with E2/AS1 Table 23 orWall underlays covered by CodeMark or a BRANZ Appraisal used within the scope

APPENDIX 2

	<p>Sealant</p> <ul style="list-style-type: none">• To comply with E2/AS1 Section 9.1.6• To be compatible with coating and other elements
	<p>Rigid Air Barrier</p> <ul style="list-style-type: none">• To comply with E2/AS1 Table 23 or• Covered by CodeMark or a BRANZ Appraisal used within the scope• Installed and handled per manufacturers specification
	<p>Flashing Tape</p> <ul style="list-style-type: none">• To comply with E2/AS1 Paragraph 4.3.11 or• Product with a CodeMark or a BRANZ Appraisal used within the scope• To be compatible with wall underlay
	<p>Meter Box</p> <ul style="list-style-type: none">• Recommended to be in a sheltered location• Refer to JSC Meter Box Technical details
	<p>Pipe Penetration Boot</p> <ul style="list-style-type: none">• To comply with E2/AS1 Paragraph 9.1.9.3; or• Covered by CodeMark or a BRANZ Appraisal used within the scope• To be installed per manufacturers specifications
	<p>Window Joinery</p> <ul style="list-style-type: none">• To be installed accordance with E2/AS1 Paragraph 9.1.10 and NZS 4211
	<p>Coating</p> <ul style="list-style-type: none">• Should be suitable to use as external cladding coating• All weatherboards are recommended to be delivered to site with 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 manufacturers specifications at all times

EXTERNAL REFERENCE

This document must be read in conjunction with:

- 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)
- BRANZ Build 173 – Coatings for Timber Weatherboards (refer to www.branz.co.nz)

Disclaimer: Designer or specifier needs to specify themselves for using any third-party accessories with our cladding system. We are not liable for the installation of any component or accessory not supplied by JSC. For use of any particular component please refer back to our specifically detailed instructions in APPENDIX 1 of this document or our Technical Installation details. If unsure, please seek expert advice.



PREMIUM ARCHITECTURAL
& BUILDING SOLUTIONS

jsc.co.nz

TechHelp@jsc.co.nz | Sales@jsc.co.nz

FIND JSC ONLINE



AUCKLAND

(09) 412 2800
22 Sawmill Road
Riverhead

HAMILTON

0800 57 26 88
43 McKee Street
Pukete

WELLINGTON

0800 57 26 88
61 Seaview Road
Seaview

CHRISTCHURCH

(03) 348 9726
72 Hammersmith Drive
Sockburn