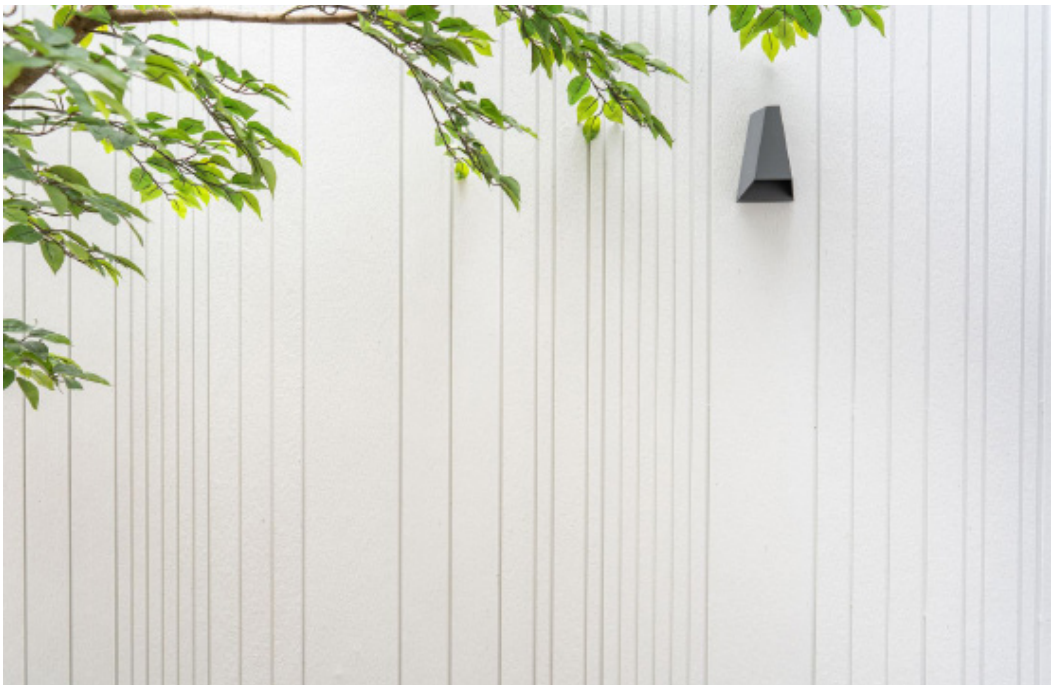
BRANZ Appraised

Appraisal No. 1253 (2023)

SHERA SHIPLAP VERTICAL WEATHERBOARD CAVITY CLADDING



Appraisal No. 1253 (2023)

Amended 30 November 2023

BRANZ Appraisals

Technical Assessments of products for building and construction.

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Product

1.1 Shera Shiplap Vertical Weatherboard Cavity Cladding is a cavity-based, shiplap-jointed fibre cement wall cladding system. It is designed to be used as an external wall cladding system for residential and light commercial type buildings where domestic construction techniques are used.

1.2 Shera Shiplap Vertical Weatherboard Cavity Cladding consists of Shera fibre cement weatherboards fixed over castellated timber battens or vented battens, to form a cavity. The cladding is finished with a latex paint system.

Scope

2.1 Shera Shiplap Vertical Weatherboard Cavity Cladding has been appraised as an external wall cladding system for timber-framed buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1; and,
- with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and,
- situated in NZS 3604 Wind Zones up to, and including, Extra High.

2.2 Shera Shiplap Vertical Weatherboard Cavity Cladding has also been appraised as an external wall cladding for steel-framed buildings within the following scope:

- the scope limitations of NASH Building Envelope Solutions, Paragraph 1.1 for steel-framed buildings; and,
- with a risk score of 0-20, calculated in accordance with NASH Building Envelope Solutions; and,
- situated in NASH Standard Part 2 Wind Zones up to, and including, Extra High.

2.3 Shera Shiplap Vertical Weatherboard Cavity Cladding has also been appraised for weathertightness and structural wind loading when used as an external wall cladding system for timber-framed buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regard to building height and floor plan area; or,
- constructed with timber framing subject to specific engineering design; and,
- situated in specific design wind pressures up to a maximum design differential ultimate limit state (ULS) of 2.5 kPa.

2.4 Shera Shiplap Vertical Weatherboard Cavity Cladding must only be installed vertically on vertical, flat surfaces.

2.5 Shera Shiplap Vertical Weatherboard Cavity Cladding has been appraised for use with aluminium window and door joinery that is installed with vertical jambs and horizontal heads and sills. *(Note: The Appraisal of Shera Shiplap Vertical Weatherboard Cavity Cladding relies on the joinery meeting the requirements of NZS 4211 for the relevant Wind Zone or wind pressure.)*

Building Regulations

New Zealand Building Code (NZBC)

3.1 **In the opinion of BRANZ, Shera Shiplap Vertical Weatherboard Cavity Cladding, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet the following provisions of the NZBC:**

Clause B1 STRUCTURE: Performance B1.3.1, B1.3.2 and B1.3.4. Shera Shiplap Vertical Weatherboard Cavity Cladding meets the requirements for loads arising from self-weight, wind, impact and creep [i.e. B1.3.3 (a), (h), (j) and (q)]. See Paragraphs 9.1-9.3.

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years and B2.3.2. Shera Shiplap Vertical Weatherboard Cavity Cladding meets these requirements. See Paragraphs 10.1 and 10.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. Shera Shiplap Vertical Weatherboard Cavity Cladding meets this requirement. See Paragraphs 14.1-14.5.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Shera Shiplap Vertical Weatherboard Cavity Cladding meets this requirement.

Technical Specification

4.1 System components and accessories for Shera Shiplap Vertical Weatherboard Cavity Cladding supplied by CLAD Solutions Limited are:

Shera shiplap weatherboards

- Shera shiplap weatherboards are 10 mm thick fibre cement weatherboards manufactured of a cellulose-cement composite to meet the requirements of AS/NZS 2908.2. The weatherboards have a sanded surface ready for painting and are coloured light beige. They are identified by the name 'Shera Splendid Plank' and a batch code on the rear of the weatherboard.
- Shera shiplap weatherboards are available in two profiles:
  - **Modern Stagger** - with a tapered edge at laps and square ends, available 100, 150 or 200 mm wide, in 3,000 mm lengths.
  - **DeLine** - with a square edge at laps and square ends, available 220 mm wide, with or without a groove, in 3,000 mm lengths.

Accessories

- **Shera RWU** – 6 or 9 mm thick medium density fibre cement sheet, complying with NZBC Acceptable Solution E2/AS1, Table 23, available 1,200 mm wide and 2,400 or 3,000 mm long.
- **Shera Shiplap Internal Corner Profile SS-IC** – 0.9 mm thick aluminium 3,000 mm long.
- **Shera Shiplap External Corner Profile SS-EC** – 0.9 mm thick aluminium 3,000 mm long.
- **L-Shaped Perforated Cavity Closer** - 19 x 29 x 0.7 mm thick aluminium 3,000 mm long.

Accessories for use with recessed windows

- **Shera Shiplap Jamb Profile 20 mm SS-JP-20** - 0.9 mm thick aluminium 3,000 mm long.
- **Ventilated Sill Profile 20 mm VSP20** - 1.2 mm thick aluminium 3,000 mm long.
- **Shera Shiplap Starter Profile SS-SP** - 0.9 mm thick aluminium 3,000 mm long.
- **Shera Shiplap Sill Stopend Profile 20 mm (Pair) SS-SE-20-Left & Right** - 0.9 mm thick aluminium.
- **Expanding Foam Tape** - Contega Fiden Foam Tape or a closed cell foam tape complying with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.10.7 for use around window joinery.

4.2 Accessories used with Shera Shiplap Vertical Weatherboard Cavity Cladding which are supplied by the building contractor are:

- **Horizontal cavity battens** - Drispace Vent VB20 Ventilated Batten or a timber cavity batten system with a valid BRANZ Appraisal or a nominal 20 x 45 mm timber castellated batten with a sloped top edge, treated to a minimum of H3.1.
- **Gun nail fixings for Shera weatherboards on timber frame** – 65 x 2.87 mm or 75 x 3.06 mm D-head ring shank hot-dip galvanised or stainless steel gun nails.
- **Screw fixings for Shera weatherboards on timber frame** – 63 mm x 10 g or 75 mm x 10 g hot-dip galvanised or Grade 316 stainless steel countersunk screws.
- **Fixings for Shera weatherboards on steel frame** - self-drilling AS 3566 Corrosion Class 4 or stainless steel 65 or 75 mm x 12 g wingtek countersunk screws. All screws must allow a minimum of three threads penetration through the steel framing.
- **Fixings for cavity battens and flashings** - 40 x 2.8 mm or longer flat head nails or finishing brad nails for timber framing or 50 mm x 10 g countersunk screws for steel framing. All fixings must be hot-dip galvanised or stainless steel.

(Note: Hot-dip galvanising must comply with AS/NZS 4680.)

- **Flexible wall underlay** – synthetic wall underlay complying with NZBC Acceptable Solution E2/AS1, Table 23, or breather-type membranes covered by a valid BRANZ Appraisal or CodeMark for use as wall underlays.
- **Flexible wall underlay support** - polypropylene strap or additional vertical battens for securing the flexible wall underlay in place and preventing bulging of the bulk insulation into the drainage cavity.
- **Rigid wall underlay** – Shera RWU, fibre cement panel or plywood complying with NZBC Acceptable Solution E2/AS1, Table 23 or rigid sheathing covered by a valid BRANZ Appraisal or CodeMark for use as a rigid air barrier system.
- **Thermal break** - thermal break with a minimum R-value of 0.25 m^2K/W in accordance with NZBC Clause E3, Paragraph E3.3.1, and NASH Building Envelope Solutions, Section 11.
- **Flexible sill, head and jamb flashing tape** – flexible flashing tapes complying with NZBC Acceptable Solution E2/AS1, Paragraph 4.3.11, or flexible flashing tapes covered by a valid BRANZ Appraisal or CodeMark for use around window and door joinery openings.
- **Cavity closer** – uPVC closer complying with NZBC Acceptable Solution E2/AS1, Clause 9.1.8.3.
- **Timber cover boards** - for external boxed corners.
- **Window and door trim cavity air seal** - air seals and PEF rod complying with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.6, or self-expanding, moisture cure polyurethane foam air seals covered by a valid BRANZ Appraisal for use around window, door and other wall penetration openings.
- **Head flashing and sill tray** - as supplied by the window manufacturer or installer and sized to suit joinery.
- **Flashings** - refer to NZS 3604, Section 4, NZBC Acceptable Solution E2/AS1, Table 20 or NASH Building Envelope Solutions, Table 20 for durability requirements.
- **Flexible sealant** – Sikaflex® AT-Façade Sealant as per BRANZ Appraisal No. 613.

Paint System Specification

4.3 Paint systems are not supplied by CLAD Solutions Limited and have not been assessed, and are therefore outside the scope of this Appraisal.

4.4 Before installing Shera weatherboards, all cut edges or exposed edges must be sealed on-site with a primer suitable for the selected proprietary acrylic paint system.

4.5 All exposed faces, including top edges at sills and bottom edges of the Shera weatherboard, trim and accessories must be finished with a latex exterior paint system complying with AS 3730.

Handling and Storage

5.1 Handling and storage of all materials supplied by CLAD Solutions Limited or the contractor, whether on-site or off-site, is under the control of the building contractor. Shera weatherboards are packed on pallets and must be kept dry during transport. The weatherboards must be horizontally stacked on a flat surface and must always be sufficiently supported so that they do not sag. They must be kept dry at all time either by storing under cover or providing water covers to the stack, so they are stored in a dry ventilated space. The weatherboards must always be lifted from a stack by two people and then be carried on edge.

5.2 Accessories must be stored so they are kept clean, dry and undamaged. All accessories must be used within the maximum storage period recommended by the manufacturer.

Technical Literature

6.1 This Appraisal must be read in conjunction with:

- Shera Shiplap Vertical Weatherboard Technical Manual - Cavity Fix, dated November 2023.
- Shera Shiplap Vertical on Steel Framing - Details, dated June 2023.
- Claddings Installation to Steel Framing - Technical Supplement, dated July 2023.

6.2 All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

Timber Treatment

7.1 Timber wall framing behind Shera Shiplap Vertical Weatherboard Cavity Cladding must be treated as required by NZBC Acceptable Solution B2/AS1.

Timber Framing

7.2 Timber framing must comply with NZS 3604 for buildings or parts of a building within the scope limitations of NZS 3604. Buildings or parts of buildings outside the scope of NZS 3604 must be to a specific design in accordance with NZS 3603 and AS/NZS 1170. Where specific design is required, the framing must be of at least equivalent stiffness to the framing provisions of NZS 3604. In all cases, studs must be at maximum 600 mm centres. Nogs/dwangs must be in a continuous line and be fitted flush between the studs at a maximum 400 mm centres.

7.3 Timber framing must have a maximum moisture content of 24% at the time of the cladding application. *(Note: If Shera weatherboards are fixed to framing with a moisture content of greater than 24%, problems may occur at a later date due to excessive timber shrinkage.)*

Steel Framing

7.4 Steel framing must be in accordance with NASH Standard Part 2.

7.5 The minimum framing specification is 'C' section studs and nogs of overall section size of 89 mm web and 40 mm flange. Steel thickness must be minimum 0.75 mm. Studs must be at maximum 600 mm centres. Dwangs must be fitted flush between the studs at maximum 800 mm centres.

General

8.1 Punchings in the cavity vent strip provide a minimum ventilation opening area of 1,000 mm² per lineal metre of wall in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.3 b) or NASH Building Envelope Solutions, Paragraph 9.1.9.3 b).

8.2 At ground level, the bottom edge of Shera weatherboards must be kept clear of paved surfaces, such as footpaths, by a minimum of 100 mm and unpaved surfaces by 175 mm in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Table 18 or NASH Building Envelope Solutions, Table 18. The ground clearances to finished floor levels as set out in NZS 3604 must be adhered to.

8.3 At balcony, deck or low pitch roof/wall junctions, the bottom edge of Shera weatherboards must be kept clear of any adjacent surface, or above the top surface of any adjacent roof flashing by a minimum of 35 mm.

8.4 All external walls of buildings must have barriers to airflow in the form of interior linings with all joints stopped for Wind Zones up to, and including, Very High, and rigid underlays for buildings in the Extra High Wind Zone. Unlined gables and walls must incorporate a rigid wall underlay or an air barrier which meets the requirements of NZBC Acceptable Solution E2/AS1, Table 23 or NASH Building Envelope Solutions, Paragraph 9.1.3.4. For attached garages, wall underlays must be selected in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.3.4 or NASH Building Envelope Solutions, Paragraph 9.1.3.4. Where rigid underlays are used, the fixing lengths must be increased by a minimum of the thickness of the underlay.

8.5 Where the system abuts other cladding systems, designers must detail the junction to meet their own requirements and the performance requirements of the NZBC. Details not included within the Technical Literature have not been assessed and are outside the scope of this Appraisal.

Inter-storey Junctions

8.6 Inter-storey junctions must be constructed in accordance with the Technical Literature. Inter-storey drained joints must be provided to limit continuous cavities to the lesser of 2-storeys or 7 m in height, in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.1.9.4 b) and NASH Building Envelope Solutions, Paragraph 4.5.1.8.

Structure

Mass

9.1 The mass of Shera Shiplap Vertical Weatherboard Cavity Cladding when installed on the wall ranges from 14.4-14.9 kg/m² at equilibrium moisture content (EMC). Shera Shiplap Vertical Weatherboard Cavity Cladding is therefore considered a light wall cladding in terms of NZS 3604 and NASH Standard Part 2.

Impact Resistance

9.2 Shera Shiplap Vertical Weatherboard Cavity Cladding will resist impacts likely to be encountered in normal residential use. The likelihood of impact damage to the cladding when used in light commercial situations should be considered at the design stage, and appropriate protection such as the installation of bollards and barriers provided for vulnerable areas.

Wind Zones

9.3 Shera Shiplap Vertical Weatherboard Cavity Cladding is suitable for use in all Wind Zones of NZS 3604 up to, and including, Extra High where buildings are designed to meet the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 or NASH Building Envelope Solutions. Shera Shiplap Vertical Weatherboard Cavity Cladding is also suitable for use where timber-framed buildings are specifically designed, up to 2.5 kPa design differential ULS wind pressure.

Durability

10.1 Shera Shiplap Vertical Weatherboard Cavity Cladding meets the performance requirements of NZBC Clause B2.3.1 (b) 15 years for the Shera weatherboards and flashings.

Serviceable Life

10.2 Shera Shiplap Vertical Weatherboard Cavity Cladding installations are expected to have a serviceable life of at least 35 years, provided the paint coating system is maintained in accordance with this Appraisal, to ensure the Shera weatherboards and fixings remain dry in service. Shera Shiplap Vertical Weatherboard Cavity Cladding must be painted within 3 months of fixing.

10.3 Coastal locations can be very corrosive to fasteners, especially locations within distances of up to 500 m from the sea including harbours, or 100 m from tidal estuaries and sheltered inlets, and otherwise as shown in NZS 3604, Figure 4.2. These coastal locations are defined in NZS 3604 as Zone D. To achieve an extended serviceable life in Zone D, battens must be fixed with stainless steel or protected hot-dip galvanised steel fasteners. Batten fixings outside Zone D may be hot-dip galvanised steel.

10.4 Microclimatic conditions, including geothermal hot spots, industrial contamination and corrosive atmospheres, and contamination from agricultural chemicals or fertilisers can convert mildly corrosive atmosphere into aggressive environments for fasteners. The fixing of battens and Shera weatherboards in areas subject to microclimatic conditions requires specific design in accordance with NZS 3604, Paragraph 4.2.4, and is outside the scope of this Appraisal.

Maintenance

11.1 Regular maintenance is essential for Shera Shiplap Vertical Weatherboard Cavity Cladding to continue to meet the NZBC durability performance provision and to maximise its serviceable life.

11.2 Annual inspections must be made to ensure that all aspects of the cladding system, including the paint coating system, flashings and any sealed joints remain in a weatherproof condition. Any damaged areas, or areas showing signs of deterioration which would allow water ingress, must be repaired immediately. Sealant and paint coatings must be repaired in accordance with the sealant or paint coating manufacturer's instructions.

11.3 All exterior surfaces require an annual clean, a thorough soft wash with soapy water. Caustic-based preparations should never be used. Paint systems must be recoated at approximately 7-15 year intervals in accordance with the paint manufacturer's instructions.

11.4 Minimum ground clearances as set out in this Appraisal must be maintained at all times during the life of the cladding. *[Note: Failure to adhere to the minimum ground clearances given in this Appraisal and the Technical Literature will adversely affect the long term durability of Shera Shiplap Vertical Weatherboard Cavity Cladding.]*

Prevention of Fire Occurring

12.1 Shera weatherboards are considered a non-combustible material and need not be separated from heat sources such as fireplaces, heating appliances, flues and chimneys. However, when used in conjunction with, or attached to heat sensitive materials, the heat sensitive material must be separated from heat sources such as fireplaces, heating appliances, flues and chimneys. Part 7 of NZBC Verification Method C/VM1 and Acceptable Solution C/AS1, and NZBC Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

Control of External Fire Spread

Vertical Fire Spread

13.1 This Appraisal only covers buildings 10 m or less in height. NZBC Functional Requirement C3.2 identifies that external vertical fire spread to upper floors only needs be considered for buildings with a building height greater than 10 m. Control of external vertical fire spread is therefore outside the scope of this Appraisal.

Horizontal Fire Spread

13.2 Shera Shiplap Vertical Weatherboard Cavity Cladding has a peak heat release rate of less than 100 kw/m^2 and a total heat released of less than 25 MJ/m^2. Testing was carried out as per Paragraph 5.4 of NZBC Acceptable Solution C/AS1 and Paragraph 5.8.1 of NZBC Acceptable Solution C/AS2, achieving a Type A performance. Shera Shiplap Vertical Weatherboard Cavity Cladding can therefore be used within 1 m of the relevant boundary.

13.3 Refer to NZBC Acceptable Solutions C/AS1 and C/AS2 and NZBC Verification Method C/VM2 for fire resistance rating and control of external fire spread requirements for external walls.

External Moisture

14.1 Shera Shiplap Vertical Weatherboard Cavity Cladding, when installed in accordance with this Appraisal and the Technical Literature will prevent the penetration of moisture that could cause undue dampness or damage to building elements.

14.2 The cavity must be sealed off from the roof and subfloor space to meet code compliance with NZBC Clause E2.3.5.

14.3 Shera Shiplap Vertical Weatherboard Cavity Cladding allows excess moisture present at the completion of construction to be dissipated without permanent damage to building elements to meet code compliance with NZBC Clause E2.3.6.

14.4 The details given in the Technical Literature for weather sealing are based on the design principle of having a first and second line of defence against moisture entry for all joints, penetrations and junctions. The ingress of moisture must be excluded by detailing joinery and wall interfaces as shown in the Technical Literature. Weathertightness details that are developed by the designer are outside the scope of this Appraisal and are the responsibility of the designer for compliance with the NZBC.

14.5 Shera Shiplap Vertical Weatherboard Cavity Cladding, where there is a designed cavity drainage path for moisture that penetrates the cladding, does not reduce the requirements for junctions, penetrations, etc. to remain weather resistant.

Internal Moisture

15.1 Buildings must be constructed with an adequate combination of thermal resistance and ventilation, and space temperature must be provided to all habitable spaces, bathrooms, laundries and other spaces where moisture may be generated or may accumulate.

Water Vapour

15.2 Shera Shiplap Vertical Weatherboard Cavity Cladding is not a barrier to the passage of water vapour, and when installed in accordance with the Technical Literature and this Appraisal will not create or increase the risk of moisture damage resulting from condensation.

15.3 Where Shera Shiplap Vertical Weatherboard Cavity Cladding is to be installed over a steel frame, thermal breaks must be installed over each steel member directly over the wall underlay, in accordance with the requirements of NZBC Acceptable Solution E3/AS1, Paragraph 1.1.4 d) and NASH Building Envelope Solutions, Section 11.

Installation Information

Installation Skill Level Requirement

16.1 All design and building work must be carried out in accordance with the Shera Shiplap Vertical Weatherboard Cavity Cladding Technical Literature and this Appraisal by competent and experienced tradespersons conversant with Shera Shiplap Vertical Weatherboard Cavity Cladding. Where the work involves Restricted Building Work (RBW), this must be completed by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant License Class.

System Installation

Building Underlay and Flexible Sill and Jamb Tape Installation

17.1 The selected building underlay and flexible sill and jamb tape system must be installed by the building contractor in accordance with the underlay and tape manufacturer's instructions prior to the installation of the cavity battens and the rest of Shera Shiplap Vertical Weatherboard Cavity Cladding. Flexible building underlay must be installed horizontally and be continuous around corners. Underlay must be lapped 75 mm minimum at horizontal joints and 150 mm minimum over studs at vertical joints. Rigid wall underlay must be installed in accordance with NZBC Acceptable Solution E2/AS1 and Shera Shiplap Vertical Weatherboard Cavity Cladding Technical Literature. Particular attention must be paid to the installation of the building underlay and sill and jamb tapes around window and door openings to ensure a continuous seal is achieved and all exposed wall framing in the opening is protected.

17.2 A wall underlay support must be installed over flexible wall underlay at maximum 300 mm vertical centres.

Horizontal Cavity Battens - Timber Framing

17.3 Cavity battens must be installed over the wall underlay to the wall framing (nogs/dwangs) at maximum 400 mm centres. The batten must be installed with the top edge sloping away from the wall underlay towards the back of the weatherboards.

Cavity Battens - Steel Framing

17.4 Cavity battens are fixed to all steel framing members with a thermal break fixed to the exterior side of the framing. The battens will be fixed by the cladding fixings so are tacked in position at approximately 400 mm centres.

Shera Shiplap Vertical Weatherboard Cavity Cladding Installation

17.5 Shera weatherboards may be cut on-site by power saw. Holes and cut-outs may be formed by drilling a number of holes around the perimeter of the opening required and tapping out the centre with a hammer, or by using a hole saw. Blades and drill bits should be tungsten carbide tipped.

17.6 Prior to cladding, ensure all pipes and penetrations have been sealed as per NZBC Acceptable Solution E2/AS1, Clause 9.1.9.3.

17.7 Weatherboards must be dry prior to installation. Before the weatherboards are installed, cut ends exposed to the exterior must be sealed with an acrylic sealer to provide a suitable surface for the sealant to adhere to.

17.8 Shera Shiplap Vertical Weatherboard Cavity Cladding must be installed starting at the side of the wall. The bottom edge of weatherboards must overhang the bottom plate by a minimum of 50 mm.

17.9 Before the weatherboards are installed, check the set out is correct and corner detail prepared to suit the selected option, e.g. corner profile external box corner. The necessary flashings, including window flashings, must be installed before commencing weatherboard fixing.

17.10 The minimum laps of Shera Shiplap Vertical Weatherboard Cavity Cladding are predetermined by the machine joint detail. Weatherboards should be set out so as near to a full board as possible will finish to the jambs of windows and doors.

17.11 Shera Shiplap Vertical Weatherboard Cavity Cladding shall be strictly installed in accordance with the fixing instructions given in the manufacturer's Technical Literature. Particular attention shall be paid to the requirement to pre-drill all fixings when using countersunk screws. Check D head gun nails or screw fixings finish 2 mm below the weatherboard surface. Ensure all fixings penetrate the framing by a minimum of 35 mm.

Aluminium Joinery Installation

17.12 Aluminium joinery and associated head and sill flashings must be installed by the building contractor in accordance with the Technical Literature. A 7.5 mm nominal gap must be left between the joinery reveal and the wall framing so a PEF rod and air seal can be installed after the joinery has been secured in place.

Inspections

17.13 The Technical Literature must be referred to during the inspection of Shera Shiplap Vertical Weatherboard Cavity Cladding installations.

Finishing

17.14 The paint coating manufacturer's instructions must be followed at all times for application of the paint finish. Shera weatherboards and trim must be clean and dry before painting commences.

Health and Safety

18.1 Cutting of Shera weatherboards must be carried out in well ventilated areas, and a dust mask and eye protection must be worn.

18.2 When power tools are used for cutting, grinding or forming holes, health and safety measures as set out in the Technical Literature must be observed because of the amount of dust generated.

18.3 Safe use and handling procedures for Shera weatherboards and the components that make up the cladding system are provided in the relevant manufacturer's Technical Literature.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

19.1 The following testing has been completed by BRANZ:

- BRANZ expert opinion on NZBC B1 code compliance for Shera Shiplap Vertical Weatherboard Cavity Cladding was based on evaluation of structural performance of Shera Shiplap Vertical Weatherboard Cavity Cladding.
- BRANZ expert opinion on NZBC E2 code compliance for Shera Shiplap Vertical Weatherboard Cavity Cladding was based on testing and evaluation of all details within the scope against NZBC Acceptable Solution E2/AS1, as stated within this Appraisal. The Shera Shiplap Vertical Weatherboard Cavity Cladding details were tested to NZBC Verification Method E2/VM1. In addition to the weathertightness testing, the details contained within the Technical Literature have been reviewed, and an opinion has been given by BRANZ technical experts that the system will meet the performance levels of NZBC Acceptable Solution E2/AS1 for drained cavity claddings.
- Cone calorimeter testing to determine the peak rate of heat release and total heat release of Shera weatherboards was completed by BRANZ. The testing was carried out in accordance with AS/NZS 3837.

19.2 Shera weatherboards have been tested by an accredited laboratory in accordance with AS/NZS 2908.2. The results have been reviewed by BRANZ and found to be satisfactory.

19.3 Testing has been carried out by an accredited laboratory to determine the modulus of rupture and inter-laminar bond strength of carbonated and non-carbonated Shera weatherboards. The results have been reviewed by BRANZ and found to be satisfactory.

Other Investigations

20.1 Structural, durability and fire opinions have been provided by BRANZ technical experts.

20.2 Site inspections have been carried out by BRANZ to assess the practicability of installation, and to examine completed installations.

20.3 The manufacturer's Technical Literature has been examined by BRANZ and found to be satisfactory.

Quality

21.1 The quality management system of the manufacture of Shera weatherboards has been assessed and registered as meeting the requirements of ISO 9001.

21.2 The manufacturer of Shera weatherboards has a CE Declaration of Performance for the product to the requirements of EN12467 based upon testing that has been examined by BRANZ. The factory production control is monitored by the notified body, in this case MPA NRW, Germany.

21.3 The quality of materials, components and accessories supplied by CLAD Solutions Limited is the responsibility of CLAD Solutions Limited.

21.4 Quality on-site is the responsibility of the installer, in accordance with the Shera Shiplap Vertical Weatherboard Cavity Cladding manual.

21.5 Designers are responsible for the building design, and building contractors are responsible for the quality of installation of the building underlay, cavity battens, Shera weatherboards and accessories in accordance with the instructions of CLAD Solutions Limited.

21.6 Sub-trades are responsible for the installation of penetrations, flashings etc. that are relevant to their trade in accordance with the Shera Shiplap Vertical Weatherboard Cavity Cladding Technical Literature.

21.7 Building owners are responsible for the maintenance of Shera Shiplap Vertical Weatherboard Cavity Cladding in accordance with the instructions of CLAD Solutions Limited.

Sources of Information

- AS 3730 Guide to the properties of paints for buildings.
- AS/NZS 2908.2:2000 Cellulose-cement products - Flat sheet.
- AS/NZS 3837:1998 Method of test for heat and smoke release rates for materials and products using an oxygen consumption calorimeter.
- AS/NZS 4680:2006 Hot-dip galvanized (zinc) coatings on fabricated ferrous articles.
- BRANZ Appraisal No. 613 Sikaflex® AT-Façade Sealant.
- ISO 5660.1: 2002 Heat release rate (cone calorimeter method).
- NASH Building Envelope Solutions: 2019.
- NASH Standards Part 2: 2019 Light steel-framed buildings.
- NZS 3602:2003 Timber and wood-based products for use in building.
- NZS 3604:1999 Timber-framed buildings.
- NZS 4211:2008 Specification for performance of windows.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

Amendments

Amendment No. 1, dated 30 November 2023

This Appraisal has been amended to add the option of gun nailing.

BRANZ

In the opinion of BRANZ, Shera Shiplap Vertical Weatherboard Cavity Cladding is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to CLAD Solutions Limited, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
   a) relates only to the product as described herein;
   b) must be read, considered and used in full together with the Technical Literature;
   c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
   d) is copyright of BRANZ.
2. CLAD Solutions Limited:
   a) continues to have the product reviewed by BRANZ;
   b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
   c) abides by the BRANZ Appraisals Services Terms and Conditions;
   d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
   a) the nature of individual examples of, batches of, or individual installations of the product, including methods and quality of work;
   b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
   c) any guarantee or warranty offered by CLAD Solutions Limited.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to CLAD Solutions Limited or any third party.

For BRANZ

Claire Falck
Chief Executive

Date of Issue:
23 August 2023