



BRANZ Appraised

Appraisal No. 1251 [2023]

SHERA WEATHERBOARD CAVITY CLADDING

Appraisal No. 1251 [2023]

Amended 12 December 2023



BRANZ Appraisals

Technical Assessments of
products for building and
construction.



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Product

- 1.1 SHERA Weatherboard Cavity Cladding is a cavity-based fibre cement weatherboard wall cladding. It is designed to be used as an external cladding system for residential and light commercial type buildings where domestic construction techniques are used.
- 1.2 SHERA Weatherboard Cavity Cladding consists of SHERA fibre cement weatherboards, either bevelback or flat back, which are fixed over timber battens to form a cavity. The cladding is finished with a latex paint system.

Scope

Timber Framing

- 2.1 SHERA Weatherboard Cavity Cladding has been appraised as an external wall cladding for timber-framed buildings within the following scope:
 - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 for timber-framed buildings; 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.

Steel Framing

- 2.2 SHERA 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.

Concealed Fixing

- 2.3 SHERA Weatherboard Cavity Cladding has also been appraised as an external wall cladding for timber and steel-framed buildings using concealed fixings within the following scope:
 - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 for timber-framed buildings; or,
 - 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 NZBC Acceptable Solution E2/AS1, Table 2 or NASH Building Envelope Solutions; and,
 - situated in NZS 3604 or NASH Standard Part 2 Wind Zones up to, and including, Very High.

General

- 2.4 Shera Weatherboard Cavity Cladding must only be installed horizontally on vertical surfaces.
- 2.5 Shera 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 Weatherboard Cavity Cladding relies on the joinery meeting the requirements of NZS 4211 for the relevant Wind Zone.]*

Building Regulations

New Zealand Building Code (NZBC)

- 3.1 In the opinion of BRANZ, Shera 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 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 9.1-9.4.

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

Clause C3 FIRE AFFECTING AREAS BEYOND THE FIRE SOURCE: Performance C3.7. Shera Weatherboard Cavity Cladding meets this requirement. See Paragraph 12.1.

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

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

Technical Specification

- 4.1 System components and accessories supplied by CLAD Solutions Limited are as follows:

Shera Weatherboards

- Shera weatherboards are manufactured of a cellulose-cement composite, comprising wood fibre bonded tightly within a cementitious silicate matrix. The weatherboards are manufactured to meet the requirements of AS/NZS 2908.2.
- Shera bevelback weatherboards have a bevel cut on the back of the weatherboard and the front bottom edge is chamfered. They are 15 mm thick and are available 150 and 180 mm wide and 4.2 m in length.
- Shera flat weatherboards are flat and the front bottom edge has a fillet edge. They are either 8 or 10 mm thick and are available 180 mm wide and 3 m in length.

Accessories

- Shera RWU rigid wall underlay – 6 or 9 mm thick fibre cement sheet complying with NZBC Acceptable Solution E2/AS1, Table 23 or NASH Building Envelope Solutions, Table 23.
- Back soaker – 70 mm wide aluminium back soaker flashing for use at vertical joints of weatherboards.
- Corner soakers – aluminium 90° soakers.
- Internal corner flashing – 50 x 50 mm 90° butt corner back flashing.
- 8 or 10 mm thick flat weatherboard fixings (timber frame) – 75 x 3.15 mm flat head nails over a flexible wall underlay, or 90 x 3.15 mm flat head nails over a rigid wall underlay. All fixings shall be hot-dip galvanised or Grade 316 stainless steel.
- 15 mm thick bevelback weatherboard fixings (timber frame) – 90 x 3.55 mm jolt head nails over a flexible wall underlay, or 100 x 4 mm jolt head nails over a rigid wall underlay. All fixings shall be hot-dip galvanised or Grade 316 stainless steel.

- **15 mm thick bevelback weatherboard with concealed fixing (timber frame)** – 65 x 2.87 mm D-head ring shank nails or 65 mm x 12 g countersunk screws over flexible wall underlay, 75 x 3.06 mm D-head ring shank nails or 75 mm x 12 g countersunk screws over rigid wall underlay. All fixings shall be hot-dip galvanised or Grade 316 stainless steel.
- **15 mm thick bevelback weatherboard fixings (steel frame)** – self-drilling AS 3566 Corrosion Class 4, 75 mm x 12 g or 14 g countersunk screws over a flexible wall underlay, or 90 mm x 14 g countersunk screws over a rigid wall underlay in NZS 3604 defined Corrosion Zones B and C, and Grade 304 stainless steel in Corrosion Zone D. All screws must allow a 15 mm minimum penetration through the steel framing.
- **15 mm thick bevelback weatherboard with concealed fixing (steel frame)** – self-drilling AS 3566 Corrosion Class 4, 65 mm x 12 g countersunk screws over flexible wall underlay, 75 mm x 12 g or 14 g countersunk screws over rigid wall underlay in NZS 3604 defined Corrosion Zones B and C, and Grade 304 stainless steel in Corrosion Zone D.

[Note: Hot-dip galvanising must comply with AS/NZS 4680.]

- 4.2 Accessories used with Shera Weatherboard Cavity Cladding, which are supplied by the building contractor are:
- **Cavity battens** – nominal 50 mm wide by 25 mm thick [minimum finished size of 45 mm wide by 20 mm thick] timber treated to Hazard Class H3.1.
 - **Cavity closer** – PVC closer with upstands, to comply with NZBC Acceptable Solution E2/AS1, Clause 9.1.8.3.
 - **Cant strip** – H3.1 treated timber to start first/lowest weatherboard at correct angle.
 - **Flexible MS sealant** – Sikaflex® AT-Façade Sealant, as per BRANZ Appraisal No. 613.
 - **Flexible sill 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 for use around window and door joinery openings.
 - **Rigid wall underlay** – fibre cement sheet complying with NZBC Acceptable Solution E2/AS1, Table 23 or NASH Building Envelope Solutions, Table 23, or a rigid wall underlay covered by a valid BRANZ Appraisal for use as a rigid air barrier system.
 - **Flexible wall underlay** – synthetic wall underlay complying with NZBC Acceptable E2/AS1, Table 23, or NASH Building Envelope Solutions, Table 23, or a breather-type membrane covered by a valid BRANZ Appraisal or CodeMark for use as a wall underlay.
 - **Flexible wall underlay support** – 19 mm wide polypropylene tape to support flexible underlay between studs.
 - **Thermal break** – thermal break with a minimum R-value of 0.25 m²K/W in accordance with NZBC Clause E3, Paragraph E3.3.1, and NASH Building Envelope Solutions, Section 11.
 - **Window and door trim cavity air seal** – air seals 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 or CodeMark suitable for use around window, door and other wall penetration openings.
 - **Aluminium joinery head flashings** – as supplied by the joinery manufacturer or contractor.
 - **Internal corner W flashings** – aluminium 90° internal W flashing with 50 mm minimum cover.
 - **Scribers** – timber treated to Hazard Class H3.2, cut to suit the finished weatherboard profile, to be pre-primed prior to installation.

Paint System Specification

- 4.3 Paint systems are not supplied by CLAD Solutions Limited and have not been assessed and are outside the scope of this Appraisal.
- 4.4 All cut ends on the Shera weatherboards are to 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 they 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 Weatherboard Technical Manual Cavity Fix, dated December 2023.
 - Claddings Installation to Steel Framing, dated June 2023.
 - Shera Weatherboard - Concealed Fix on Steel Details, dated June 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

Framing

Timber Framing

- 7.1 Timber wall framing behind Shera Weatherboard Cavity Cladding must be treated as required by NZBC Acceptable Solution B2/AS1.
- 7.2 Timber framing must comply with NZS 3604 for buildings or parts of a building within the scope limitations of NZS 3604. In all cases, studs must be at maximum 600 mm centres. Dwangs must be fitted flush between the studs at maximum 800 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.]*
- 7.4 Timber wall framing must have a maximum moisture content of 18% before the weatherboards are painted.

Steel Framing

- 7.5 Steel framing must be in accordance with NASH Standard Part 2.
- 7.6 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 must provide a minimum ventilation opening 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 The ground clearance to finished floor levels as set out in NZS 3604 must be adhered to at all times. At ground level, paved surfaces such as footpaths, must be kept clear of the bottom edge of the cladding system 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.
- 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 cladding penetrations are wider than the cavity batten spacing, allowance must be made for airflow between adjacent cavities by leaving a minimum gap of 10 mm between the bottom of the vertical cavity batten and the flashing to the opening.
- 8.6 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

- 8.7 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 weatherboard when installed on the wall is 24.4 kg/m² at equilibrium moisture content [EMC]. Shera 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 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 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.
- 9.4 Shera Weatherboard Cavity Cladding using the concealed fixing method is suitable for use in all Wind Zones of NZS 3604 up to, and including, Very High where buildings are designed to meet the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 or NASH Building Envelope Solutions.

Durability

- 10.1 Shera Weatherboard Cavity Cladding meets the performance requirements of NZBC Clause B2.3.1 [b] 15 years for the Shera weatherboards and flashings, and the performance requirements of NZBC Clause B2.3.1 [c] 5 years for the exterior paint system.
- 10.2 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, Shera weatherboards must be fixed with stainless steel fasteners. Fasteners outside Zone D may be hot-dip galvanised steel.
- 10.3 Microclimatic conditions, including geothermal hot spots, industrial contamination and corrosive atmospheres, and contamination from agricultural chemicals or fertilisers can convert a mildly corrosive atmosphere into aggressive environments for fasteners. The fixing of 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.

Serviceable Life

- 10.4 Shera 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 Weatherboard Cavity Cladding must be painted within 3 months of fixing.

Maintenance

- 11.1 Regular maintenance is essential for Shera 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 Weatherboard Cavity Cladding.]*

Prevention of Fire Occurring

- 12.1 Separation or protection must be provided to Shera Weatherboard Cavity Cladding 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.

Fire Affecting Areas Beyond the Fire Source

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 weatherboards have a peak heat release rate of less than 100 kW/m² and a total heat released of less than 25 MJ/m². 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. When Shera weatherboards have a directly applied surface finish of no more than 1 mm in thickness, they meet the requirements of Paragraph 5.4 of C/AS1 and Paragraph 5.8.2 a) of NZBC Acceptable Solution C/AS2. Shera 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 Verification Method C/VM2 for fire resistance rating and control of external fire spread requirements for external walls.

External Moisture

- 14.1 Shera 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 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 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 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. Refer to Paragraph 15.3 below for specific requirements for steel-framed buildings.
- 15.3 Where Shera 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 Weatherboard Cavity Cladding Technical Literature and this Appraisal by competent and experienced tradespersons conversant with the Shera 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

Wall Underlay and Flexible Sill and Jamb Tape Installation

- 17.1 The selected wall 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 Weatherboard Cavity Cladding. Flexible wall 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 or NASH Building Envelope Solutions and Shera Weatherboard Cavity Cladding Technical Literature and be overlaid with a flexible wall underlay. Proprietary systems shall be installed in accordance with the manufacturer's instructions. 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 Where studs are at greater than 450 mm centres and a flexible wall underlay is being used, a building underlay support must be installed in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.5 or NASH Building Envelope Solutions, Paragraph 9.1.9.5.

Cavity Battens - Timber Framing

- 17.3 Cavity battens must be installed over the wall underlay at the same spacing as the wall studs – i.e. at 600 mm centres where the studs are at 600 mm centres or at 400 mm centres when studs are at 400 mm centres. Cavity battens must be fixed in place with 40 x 2.5 mm hot-dip galvanised flat head nails, at maximum 750 mm centres. Where a rigid underlay is used, the length of the fixing must be increased by a minimum of the thickness of the underlay.

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 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 Weatherboard Cavity Cladding must be installed starting at the bottom of the wall. A cant strip (H3.1 treated timber) must be fixed behind the bottom course of weatherboards to ensure the weatherboards are set at the correct angle. The cant strip must be continuous around the perimeter of the building. The bottom course 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. external box corner, corner soaker. The necessary flashings, including window flashings, must be installed before commencing weatherboard fixing.
- 17.10 Shera weatherboards are nailed to studs at maximum 600 mm centres. For concealed fixing, all nails must allow a 30 mm minimum penetration through the timber framing and all screws must ensure a 25 mm minimum penetration. For face-fixing, all fixings must ensure 35 mm penetration into timber framing and be pre-drilled with a diameter as indicated in the Technical Literature.
- 17.11 Shera weatherboards are joined with a back soaker and a continuous bead of approved sealant. They are left proud and allowed to cure before thinning off.
- 17.12 Shera weatherboards must have a minimum lap of 30 mm, and should be set out so as near to a full board as possible will finish under and over windows and doors and at the top of the wall. A storey rod is recommended to keep all laps and cover consistent.
- 17.13 Shera 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 fixing type and the requirement to pre-drill all fixings.

Aluminium Joinery Installation

- 17.14 Aluminium joinery and associated head and sill flashings must be installed by the building contractor in accordance with the Technical Literature. A 7.5-10 mm nominal gap must be left between the joinery reveal and the wall framing so a PEF rod and air seal in accordance with a NZBC Acceptable Solution E2/AS1, Paragraph 9.1.6 or NASH Building Envelope Solutions, Paragraph 9.1.6 can be installed after the joinery has been secured in place.
- 17.15 After installing the window and door joinery, trim, planted sills and scribes may be installed in accordance with the Technical Literature to provide additional weatherproofing for the joinery/weatherboard junction.

Finishing

- 17.16 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.

Inspections

- 17.17 The Technical Literature must be referred to during the inspection of Shera Weatherboard Cavity Cladding installations.

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:
- BRANZ expert opinion on NZBC B1 code compliance was based on evaluation of the structural performance of Shera Weatherboard Cavity Cladding. Full scale pressure box testing and small scale connection testing of the bevelback weatherboards on both timber and steel framing using the concealed fix method was carried out.
 - BRANZ expert opinion on NZBC E2 code compliance for Shera Weatherboard Cavity Cladding was based on evaluation of all details within the scope against NZBC Acceptable Solution E2/AS1, as stated within this Appraisal. 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. The 15 mm thick bevelback concealed fix weatherboard system was subjected to NZBC Verification Method E2/VM1 testing.
 - Cone calorimeter testing to determine the peak rate of heat release and total heat release of Shera weatherboards 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 An expert judgment has 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.

- 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 Weatherboard Cavity Cladding Technical Literature.
- 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 Weatherboard Cavity Cladding Technical Literature.
- 21.7 Building owners are responsible for the maintenance of Shera 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.
- BRANZ Appraisal No. 613 Sikaflex® AT-Facade Sealant.
- ISO 5660.1:2002 Heat release rate [cone calorimeter method].
- NASH Building Envelope Solutions: 2019.
- NASH Standard Part 2: 2019 Light steel-framed buildings.
- NZS 3602:2003 Timber and wood-based products for use in building.
- NZS 3604:2011 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 12 December 2023

This Appraisal has been amended to add the option of gun nailing for the 15 mm bevelback weatherboards.



In the opinion of BRANZ, **Shera 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 workmanship;
 - 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

Acting Chief Executive

Date of Issue:

26 July 2023