



BRANZ Appraised

Appraisal No. 514 [2020]

WEATHERTEX CAVITY FIXED WEATHERGROOVE PANEL CLADDING SYSTEMS

Appraisal No. 514 (2020)

Amended 1 February 2022



BRANZ Appraisals

Technical Assessments of products for building and construction.



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Product

- 1.1 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems are external wall cladding systems for residential and light commercial type buildings where domestic construction techniques are used.
- 1.2 The systems consist of Weathergroove panels, flashings and accessories applied over a drained and vented cavity to external wall framing.

Scope

Timber Framing

- 2.1 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems have been appraised as external wall claddings 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 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems have also been appraised as external wall claddings 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.

General

- 2.3 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems must only be installed vertically on vertical, flat surfaces.
- 2.4 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems are appraised for use with aluminium window and door joinery that is installed with vertical jambs and horizontal heads and sills. *[Note: The Appraisal of Weathertex Cavity Fixed Weatherboard Cladding Systems relies on the joinery meeting the requirements of NZS 4211 for the relevant Wind Zone or design wind pressure.]*

Building Regulations

New Zealand Building Code [NZBC]

3.1 In the opinion of BRANZ, Weathertex Cavity Fixed Weathergroove Panel Cladding Systems, 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. Weathertex Cavity Fixed Weathergroove Panel Cladding Systems meet the requirement for loads arising from self-weight, earthquake, wind, impact and creep [i.e. B1.3.3 (a), (f), (h), (j) and (q)]. See Paragraphs 10.1–10.4.

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years, B2.3.1 (c) 5 years and B2.3.2. Weathertex Cavity Fixed Weathergroove Panel Cladding Systems meet these requirements. See Paragraphs 11.1–11.3.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. Weathertex Cavity Fixed Weathergroove Panel Cladding Systems meet this requirement. See Paragraphs 15.1–15.5.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Weathertex Cavity Fixed Weathergroove Panel Cladding Systems meet this requirement.

Technical Specification

4.1 System components and accessories supplied by Weathertex Pty Ltd are as follows:

Weathertex Weathergroove Panels

- Weathertex Weathergroove panels are 9.5 mm thick panels manufactured from exterior-grade wood fibre-based [hardboard] panels. The wood fibres are obtained from selected Australian hardwoods. The fibres are pre-treated with steam under pressure and are then bonded together, using natural lignin present in the fibres. The panels contain a waterproofing agent to minimise moisture absorption. Weathergroove panels are produced with a smooth or textured [Ruff-Sawn and Woodsman] front face. The long edges are rebated to accept the Weathergroove joiner or to form a shadow line. Panels are available either as flat or with vertical rebates at 75, 150, 300, 600 or 1200 mm centres or at 'random' spacing [Fusion]. Refer to Table 1 for availability of panel sizes, profiles and surface finishes.
- Weathergroove panels are available either primed on all six sides or uncoated [Natural].

Table 1: Weathergroove Panel Sizes and Profiles/Finishes

Series	Dimensions [mm]	Pre-primed			Natural
		Smooth	Ruff Sawn	Woodsman	
75	3,660 x 1,196	✓		✓	✓
150	3,660 x 1,196	✓	✓	✓	✓
	2,745 x 1,196	✓		✓	
	2,440 x 1,196	✓		✓	
300	3,660 x 1,196	✓		✓	✓
	2,745 x 1,196	✓			
600	3,660 x 1,196	✓			
1,200	3,660 x 1,196	✓		✓	✓
	2,745 x 1,196	✓			
Fusion	3,660 x 1,196	✓			✓

Accessories

- **Corner Plugs** – small and large corner plugs for Traditional Large and Small Aluminium Corner.
- **Large Cavity Closer** – folded coil-coated steel closer 20 mm wide x 1,830 mm long.
- **Aluminium Corners** – Internal LF Corner [Small], External LF Corner [Small], Internal 'W' Corner [Small], External Box Corner [Small]. Supplied in 3,660 mm lengths.
- **Aluminium Stop Ends** – small aluminium stop-ends supplied in 3,660 mm lengths.
- **Aluminium Z flashing** – supplied in 3,660 mm lengths.
- **Small Aluminium Z Flashing** – h-profile, 74 mm high and 10 mm deep. Supplied in a length of 3,670 mm.

4.2 Accessories used with the Weathertex Cavity Fixed Weathergroove Panel Cladding Systems which are supplied by the building contractor are:

Panel Fixings

- **Weathergroove panel fixings [timber frame non-structural batten]** – ND Bradnail 62 x 2 mm stainless steel brads or 65 mm x 8 g 10 t-p-i countersunk head screws.
- **Weathergroove panel fixings [timber frame - structural batten]** – ND50 Bradnail 50 x 2 mm stainless steel brads or 8 g x 45 mm countersunk head Class 4 or stainless steel screws.
- **Weathergroove panel fixings [steel frame]** – self-drilling 6 g screws. The screw head must be minimum 5.5 mm in diameter and the screw length must allow a 10 mm minimum penetration through the steel framing.

[Note: Screws must be AS 3566 Corrosion Class 4 in NZS 3604 defined Corrosion Zones B and C, and Grade 304 stainless steel in Corrosion Zone D. Hot-dip galvanising must comply with AS/NZS 4680.]

Cavity Battens

- **Cavity battens [timber framing non-structural]** – nominal 45 mm wide x 20 mm thick merchant grade timber treated to Hazard Class H3.1.
- **Cavity batten fixings [timber framing non-structural]** – 40 x 2.5 mm hot-dip galvanised or stainless steel flat head nails.
- **Cavity battens [timber framing - structural batten]** – nominal 45 x 18 mm thick SG8 framing grade pinus radiata treated to Hazard Class H3.1.
- **Structural cavity batten fixings** – 60 x 2.8 mm hot-dip galvanised or stainless steel ring shank jolt head hand-driven nails; or 64 x 2.8 mm hot-dip galvanised, or 65 x 2.87 mm stainless steel.
- **Cavibat R [steel framing]** – 45 x 20 mm thick cavity batten comprising 10 mm thick extruded polypropylene with 10 mm thick extruded polystyrene [XPS] adhered to the back.
- **Cavibat R fixings [steel framing]** – 30 or 38 mm hot-dip galvanised finishing brads used to temporary fix the battens in place until the cladding is installed.

Ancillary Items

- **Flexible wall underlay** – building paper complying with NZBC Acceptable Solution E2/AS1 Table 23, or NASH Building Envelope Solutions Table 23, or breather-type membranes covered by a valid BRANZ Appraisal for use as wall underlays.
- **Rigid wall underlay** – plywood or fibre cement panel complying with NZBC Acceptable Solution E2/AS1 Table 23 or NASH Building Envelope Solutions Table 23, or a rigid sheathing covered by a valid BRANZ Appraisal for use as a rigid air barrier system.
- **Flexible sill and jamb flashing tape** – flexible flashing tapes complying with NZBC Acceptable Solution E2/AS1 Paragraph 4.3.11 or NASH Building Envelope Solutions Paragraph 4.2.10, or flexible flashing tapes covered by a valid BRANZ Appraisal for use around window and door joinery openings.
- **Timber corner mouldings and cover battens** – timber treated to Hazard Class H3.1, pre-primed before installation.
- **Back flashings** – folded from aluminium or galvanised steel. Refer to NZS 3604, Section 4 and NZBC Acceptable Solution E2/AS1, Table 20 or NASH Building Envelope Solutions Table 20 for durability requirements.



- **Window and door trim cavity air seal** – air seals complying with NZBC Acceptable Solution E2/AS1 Paragraph 9.1.6 or NASH Building Envelope Solutions Paragraph 9.1.6, or self-expanding, moisture-cure polyurethane foam air seals covered by a valid BRANZ Appraisal suitable for use around window, door and other wall penetration openings.
- **Joinery head flashings** – as supplied by the joinery manufacturer or contractor.
- **Horizontal joint flashing alternative** – aluminium or galvanised steel 'Z' section. Refer to NZS 3604, Section 4 and NZBC Acceptable Solution E2/AS1, Table 20 for durability requirements.
- **Flexible sealant** – sealant complying with NZBC Acceptable Solution E2/AS1 or NASH Building Envelope Solutions, or sealant covered by a valid BRANZ Appraisal for use as a weather-sealing sealant for exterior use.
- **Cavity vent strip** – PVC, aluminium, coil-coated steel or stainless steel, punched with 3-5 mm holes or slots complying with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.3 or NASH Building Envelope Solutions Paragraph 9.1.9.3.

Paint System Specification

- 4.3 All exposed faces, including top edges at sills and all bottom edges of Weathertex Weathergroove panels must be finished with at least two coats of an exterior grade latex acrylic or exterior solvent-based [enamel] paint within 60 days of fixing. Paint systems are not supplied by Weathertex Pty Ltd and have not been assessed by BRANZ, and are therefore outside the scope of this Appraisal.
- 4.4 Latex acrylic exterior paint systems must comply with any of Parts 7, 8, 9 or 10 of AS 3730. Allow the recommended drying time between coats and temperature limitations for application. For solvent-based finishes, one coat of solvent-based undercoat must be applied directly over the primed panel surface. Allow to dry for a minimum of 24 hours. Finish with two coats of gloss or semi-gloss exterior solvent-based paint.

Finishing System Specification - Stain

- 4.5 Where a stain finish is specified, all exposed faces, including top edges at sills and all bottom edges of Weathergroove Natural panels must be finished with at least two coats of an exterior grade, water-based stain. The stain must be recommended for use as a wall cladding stain by the manufacturer and must be applied in accordance with their instructions. Proprietary stains have not been assessed and are therefore outside the scope of this Appraisal. *[Note: Weathergroove Natural panels can also be left uncoated or unstained to 'grey-off' over time.]*

Finishing Systems - Light Reflective Value

- 4.6 It is recommended that finishes have a Light Reflective Value [LRV] of greater than 40%.

Handling and Storage

- 5.1 Handling and storage of all materials supplied by Weathertex Pty Ltd or the building contractor, whether on-site or off-site, is under the control of the building contractor. Weathertex Weathergroove panels must be stacked flat, off the ground and supported on timber bearers at maximum 600 mm centres. They must be kept dry at all times either by storing under cover or providing waterproof covers to the stack. Care must be taken to avoid damage to edges, ends and the primed surfaces. Weathergroove panels must always 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 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Weathertex Cavity Fixed Weathergroove Panel Cladding Systems. The Technical Literature must be read in conjunction with this Appraisal. 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 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems 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 buildings 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. Dwangs must be fitted flush between the studs at maximum 800 mm centres.
- 7.3 Timber wall framing behind where panels are joined on-stud must be nominal 50 mm thickness [i.e. 45 mm minimum finished thickness].
- 7.4 Timber framing must have a maximum moisture content of 24% at the time of the cladding application. *[Note: If Weathertex Weathergroove panels are fixed to framing with a moisture content of greater than 24% problems may occur at a later date due to excessive timber shrinkage.]*
- 7.5 Timber wall framing must have a maximum moisture content of 18% before the Weathergroove panels are finished.

Steel Framing

- 7.6 Steel framing must be in accordance with NASH Standard Part 2 or to a specific engineering design for buildings outside the scope of NASH Standard Part 2.
- 7.7 The minimum framing specification is 'C' section studs and nogs of overall section size of 92 mm web and 38 mm flange [or 45 mm flange where weatherboards are joined over a stud]. 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.

Weathergroove Panel Set Out

- 7.8 Weathertex Weathergroove panels must be installed vertically. Vertical panel joints may be formed on or off-stud. Horizontal and vertical panel edges must be supported at fixing locations. At the base of the wall, the panels and panels must hang 50 mm below the supporting framing.

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 roof/wall junctions, the bottom edge of Weathergroove panels must be kept above the top surface of any adjacent roof flashing by a minimum of 70 mm. *[Note: This clearance is a requirement of Weathertex Pty Ltd and exceeds the minimum clearance specified in NZBC Acceptable Solution E2/AS1, Paragraph 9.1.3 and NASH Building Envelope Solutions Paragraph 9.1.3.]*

- 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 wall underlays for buildings in the Extra High Wind Zone and specifically designed buildings up to 2.5kPa design differential Ultimate Limit State [ULS] wind pressure. Unlined gables and walls must incorporate a rigid sheathing or an air barrier which meets the requirements of NZBC Acceptable Solution E2/AS1, Table 23 or NASH Building Envelope Solutions Table 23. 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 spacings, allowance must be made for the airflow between adjacent cavities by leaving a minimum gap of 10 mm between the bottom of the cavity 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.

Horizontal and Vertical Joints

- 9.1 Horizontal and vertical joints must be constructed in accordance with the Technical Literature.
[Note: Horizontal and vertical joints must be located over structural supports. The design of vertical joints where the system abuts different cladding types is outside the scope of this Appraisal and is the responsibility of the designer – see Paragraph 8.6.]

Structure

Mass

- 10.1 The mass of Weathertex Cavity Fixed Weathergroove Panel Cladding Systems is approximately 10.4 kg/m² at equilibrium moisture content. The systems are therefore considered lightweight cladding in terms of NZS 3604 and NASH Standard Part 2.

Impact Resistance

- 10.2 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems have good resistance to impact loads likely to be encountered in normal residential use. The likelihood of impact damage to the system when used in light commercial situations should be considered at the design stage, and appropriate protection such as the installation of bollards and barriers should be considered for vulnerable areas.

Wind Zones

- 10.3 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems are suitable for use in all building 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 Paragraph 3.2.

Weathertex Weathergroove Panel Fixings

- 10.4 Refer to Table 2 below for the specific fixing requirements for Weathertex Weathergroove panels.

Table 2: Framing and Fixing Requirements for Weathergroove panels

On-Stud or Off-Stud Joints - Studs at maximum 600 mm centres and dwangs at maximum 800 mm centres		
Fixing Centres to Panel Perimeter	Fixing Centres to Intermediate Studs	Fixing Centres to Dwangs at Joints
150 mm	300 mm	300 mm

Durability

- 11.1 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems meet the performance requirements of NZBC Clause B2.3.1 [b] 15 years for the Weathertex Weathergroove panels and flashings, and the performance requirements of NZBC Clause B2.3.1 [c] 5 years for the exterior finish system.

Serviceable Life - Paint Finish

- 11.2 Weathertex Weathergroove Panel Cladding System installations are expected to have a serviceable life of at least 20 years provided the system is maintained in accordance with this Appraisal, and the Weathertex Weathergroove panels and fixings are continuously protected by a weathertight coating and remain dry in service. Weathertex Cavity Fixed Weathergroove Panel Cladding Systems must be painted within 60 days of fixing.

Serviceable Life - Stain or Natural Finish

- 11.3 Weathertex Natural Weathergroove panels may be left uncoated or be finished with a stain coating. They are expected to have a serviceable life of at least 15 years. The product without a stain finish will grey-off over time. The weathering may not be uniform and depends on the weather exposure and the design of shading [e.g. eaves overhangs, porches and the like]. Some black spots [carbon] may appear over time which are a result of the timber species and manufacturing process.
- 11.4 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 Weathertex panels and accessories 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

- 12.1 Regular maintenance is essential to ensure the performance requirements of the NZBC are continually met and to ensure the maximum serviceability of the system.
- 12.2 Regular cleaning [at least annually] of the finish is required to remove grime, dirt and organic growth and to maximise the life and appearance of the coating. Grime may be removed by brushing with a soft brush, warm water and detergent. Finish systems must be re-coated at approximately 5–8 yearly intervals in accordance with the finish manufacturer's instructions.
- 12.3 Annual inspections must be made to ensure that all aspects of the cladding system, including the finish 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 finishes must be repaired in accordance with the relevant manufacturer's instructions.
- 12.4 Minimum ground clearances as set out in this Appraisal and the Technical Literature must be maintained at all times during the life of the system. *[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 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems.]*

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 to 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 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems have not been assessed for a peak heat release or total heat released rating and therefore cannot be used within 1 m of the relevant boundary or Risk Group SI Buildings.
- 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.



Prevention of Fire Occurring

- 14.1 Separation or protection must be provided to Weathertex Cavity Fixed Weathergroove Panel Cladding Systems 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.

External Moisture

- 15.1 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems, 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.
- 15.2 The cavity must be sealed off from the roof and subfloor space to meet code compliance with NZBC Clause E2.3.5.
- 15.3 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems 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.
- 15.4 The details given in the Technical Literature for weather sealing are based on the 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.
- 15.5 Weathertex Cavity Fixed Weatherboard Cladding Systems, 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

Water Vapour

- 16.1 Weathertex Cavity Fixed Weathergroove Panel Cladding Systems are not a barrier to the passage of water vapour, and when installed in accordance with this Appraisal will not create a risk of moisture damage resulting from condensation. Refer to Paragraph 16.2 below for specific requirements for steel-framed buildings.
- 16.2 Where Weathertex Cavity Fixed Weathergroove Panel Cladding Systems are to be installed over a steel frame, Cavibat R cavity battens must be installed over each steel member directly behind the wall underlay to provide a thermal break, in accordance with the requirements of NZBC Acceptable Solution E3/AS1, Paragraph 1.1.4 d).

Installation Information

Installation Skill Level Requirements

- 17.1 All design and building work must be carried out in accordance with the Weathertex Cavity Fixed Weathergroove Panel Cladding Systems Technical Literature and this Appraisal by competent and experienced tradespersons conversant with the Weathertex Cavity Fixed Weathergroove Panel Cladding Systems. 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

- 18.1 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 rest of the Weathertex Cavity Fixed Weathergroove Panel Cladding System. 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. Generic rigid sheathing materials must be installed in accordance with NZBC Acceptable Solution E2/AS1 or NASH Building Envelope Solutions 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.
- 18.2 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

- 18.3 Cavity battens must be installed vertically over the building underlay to the wall studs at maximum 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. Structural battens must be fixed at maximum 300 mm centres alternately offset from the centre line by 12 mm. Refer to Paragraph 4.2 for structural cavity batten fixings. 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

- 18.4 Cavibat R cavity battens are fixed to all steel framing members with the XPS face against the wall underlay. The battens are tacked in position with 30 or 38 mm finishing brads at approximately 400 mm centres.

Weathergroove Panel Cladding System Installation

- 18.5 Weathertex Weathergroove panels 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.
- 18.6 Weathertex Weathergroove panels must be kept dry prior to installation. Before the panels and panels are installed, cut ends must be sealed with a solvent-based or tannin-resistant acrylic primer.
- 18.7 Before the Weathertex Weathergroove panels are installed, the corner detail must be prepared to suit the selected option, e.g. external box corners. The necessary flashings must be installed before commencing fixing.
- 18.8 Vertical joints may be made off-stud by using a Weathergroove Joiner. If joint trimmers are not used, joints must be formed on-stud with a 1-2 mm gap between the panel edges and a 100 mm wide ultraviolet [UV] and corrosion resistant back flashing must be fitted behind the joints.
- 18.9 Panels must not be fixed to inter-storey joists or blocking, and must have a 6 mm gap between panel edges at this point to allow for shrinkage of the framing. This gap must be flashed with a horizontal joint trimmer to prevent moisture entry.
- 18.10 External corners, internal corners, vertical panel joints and cladding penetrations must be finished as detailed within the Technical Literature.

Aluminium Joinery Installation

18.11 Aluminium joinery and associated head 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 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.

Finishing

18.12 The paint or stain coating manufacturer's instructions must be followed at all times for application of the finish. Weathergroove panels must be clean and dry before commencing finishing. It is recommended that light coloured finishes are used in order to prevent solar heating of the cladding above 70°C.

Health and Safety

- 19.1 Cutting of Weathertex Weathergroove panels must be carried out in well ventilated areas and a dust mask and eye protection must be worn.
- 19.2 Safe use and handling procedures for the components that make up Weathertex Cavity Fixed Weathergroove Panel Cladding Systems are provided in the Technical Literature.

Basis of Appraisal

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

Tests

- 20.1 The following testing has been completed:
- Wind face load testing for Weathertex Weathergroove panels on timber and steel framing has been completed by a National Association of Testing Authorities [NATA] registered laboratory. The results have been reviewed by BRANZ structural engineers.
 - Nail pull tests to determine the pull-out strengths of alternative Weathertex weatherboard fixings were completed by BRANZ and the results were used in assessing Weathertex Cavity Fixed Weatherboard Cladding Systems.
 - Weathertex Cavity Fixed Weatherboard Cladding Systems were tested to NZBC Verification Method E2/VM1.

Other Investigations

- 21.1 The performance and testing of wood fibre-based wall cladding products in New Zealand and the USA has been considered, including the structural and weathertightness performance, durability and non-hazardous nature. Relevant data from BRANZ's previous Appraisals of Weathertex panels has been considered.
- 21.2 BRANZ expert opinion on NZBC E2 Code Compliance for the Weathertex Cavity Fixed Weathergroove Panel Cladding Systems including evaluation of all details within the scope of this Appraisal.
- 21.3 Site inspections have been carried out by BRANZ to assess the practicability of installation and to examine completed installations.
- 21.4 The Technical Literature for Weathertex Cavity Fixed Weathergroove Panel Cladding Systems has been examined by BRANZ and found to be satisfactory.



Quality

- 22.1 The manufacture of Weathertex Weathergroove panels has been examined by BRANZ, including methods adopted for quality control. Details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.
- 22.2 The quality of materials, components and accessories supplied by Weathertex Pty Ltd is the responsibility of Weathertex Pty Ltd. The quality control system of Weathertex Pty Ltd has been assessed and registered as meeting the requirements of AS/NZS ISO 9001.
- 22.3 Quality of installation on-site of components and accessories supplied by Weathertex Pty Ltd and the building contractor is the responsibility of the installer.
- 22.4 Designers are responsible for the building design, and building contractors are responsible for the quality of installation of framing systems and joinery, building underlays, flashing tapes, air seals and cladding system in accordance with the instructions of Weathertex Pty Ltd.
- 22.5 Building owners are responsible for the maintenance of Weathertex Cavity Fixed Weathergroove Panel Cladding Systems in accordance with the instructions of Weathertex Pty Ltd.

Sources of Information

- AS 3566-2002 Self-drilling screws for the building and construction industries.
- AS 3730 Guide to the properties of paints for buildings.
- AS/NZS 1170:2002 Structural design actions.
- NASH Building Envelope Solutions: 2019.
- NASH Standard Part 2: May 2019 Light Steel Framed Buildings.
- NZS 3603:1993 Timber Structures Standard.
- NZS 3604:2011 Timber-framed buildings.
- NZS 4211:2008 Specification for performance of windows.
- Ministry of Building, Innovation and Employment Record of amendments – Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

Amendments

Amendment No. 1, dated 29 April 2020

This Appraisal has been amended to update Table 1 and the Appraisal Holder's web address.

Amendment No. 2, dated 11 September 2020

This Appraisal has been amended to update the maximum dwang spacing.

Amendment No. 3, dated 5 February 2021

This Appraisal has been amended to add Weathergroove Natural panels.

Amendment No. 4, dated 1 February 2022

This Appraisal has been amended to add the Fusion board profile and to update Table 1.



BRANZ Appraised
Appraisal No. 514 [2020]

BRANZ Appraisal
Appraisal No. 514 [2020]
28 February 2020

WEATHERTEX CAVITY FIXED
WEATHERGROOVE PANEL
CLADDING SYSTEMS



In the opinion of BRANZ, **Weathertex Cavity Fixed Weathergroove Panel Cladding Systems** are fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided they are used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to **Weathertex Pty Ltd**, 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. **Weathertex Pty Ltd**:
 - 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 **Weathertex Pty Ltd**.
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 **Weathertex Pty Ltd** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

Date of Issue:

28 February 2020