



BRANZ Appraised

Appraisal No. 799 [2019]

INNOVA™ DURAGROOVE™ AND DURASCAPE™ FACADE SYSTEMS [CAVITY]

Appraisal No. 799 [2019]

This Appraisal replaces BRANZ
Appraisal No. 799 [2013]

Amended 31 October 2024



BRANZ Appraisals

Technical Assessments of
products for building and
construction.



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Product

- 1.1 The Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] are cavity-based, shiplap-jointed wall cladding systems. They are designed to be used as external wall cladding systems for residential and light commercial type buildings where domestic construction techniques are used.
- 1.2 The Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] consist of Innova™ Duragroove™ and Innova™ Durascape™ fibre cement sheets fixed with mechanical fasteners and adhesive sealant over timber battens to form a cavity. The fibre cement sheet is finished with a paint system.

Scope

- 2.1 Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] have been appraised as external wall cladding systems for buildings within the following scope:
 - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1; and,
 - constructed with timber framing complying with the NZBC; 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 Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] have also been appraised for weathertightness and structural wind loading when used as external wall cladding systems for 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; and,
 - constructed with timber framing complying with the NZBC; and,
 - situated in specific design wind pressures up to a maximum design differential ultimate limit state (ULS) of 2.5 kPa.
- 2.3 Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] must only be installed on vertical surfaces [except for tops of sills and balustrades, which must have a minimum slope as defined by NZBC Clause E2/AS1 or NZBC Clause F4/AS1 and be waterproofed in accordance with the Technical Literature].
- 2.4 Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] have 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 the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] relies on the joinery meeting the requirements of NZS 4211 for the relevant Wind Zone, or design wind pressures.]*

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity], if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:

Clause B1 STRUCTURE: Performance B1.3.1, B1.3.2, and B1.3.4. Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] meet the requirements for loads arising from self-weight, earthquake, wind and impact [i.e. B1.3.3 (a), (f), (h) and (j)]. See Paragraphs 9.1–9.4.

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years, B2.3.1 (c) 5 years and B2.3.2. Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] meet these requirements. See Paragraphs 10.1–10.4.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] meet this requirement. See Paragraphs 14.1–14.5.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. The Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] meet this requirement.

Technical Specification

4.1 Components and accessories for the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] supplied by Etex Australia Pty Ltd are:

Innova™ Duragroove™ and Innova™ Durascape™

- Innova™ Duragroove™ and Innova™ Durascape™ are 9 mm thick fibre cement sheets, manufactured from Innova™ standard fibre cement formulation. They are produced in sheet material form with 'Duragroove' or 'Durascape' printed on the back face. The sheets are formed, cut to length, and then cured by high pressure autoclaving. The sheets are coated on the front face and four edges with a sealer.
- Innova™ Duragroove™ and Innova™ Durascape™ sheets are available in sizes of 1,200 mm wide and 2,450, 2,750 and 3,000 mm long. Innova™ Duragroove™ sheets have vertical grooves 4.5 mm wide and 2 mm deep at either 100 mm centres [Innova™ Duragroove™ Smooth Narrow] or 150 mm centres [Innova™ Duragroove™ Smooth Wide]. Innova™ Duragroove™ Woodgrain has a textured surface with grooves at 150 mm centres. Innova™ Durascape™ is a flat sheet. Both Innova™ Duragroove™ and Innova™ Durascape™ have shiplap joints which are chamfered to provide a vertical groove. The sheets are manufactured to conform to the requirements of AS/NZS 2908.2.

Accessories

- **Innova™ Aluminium Internal Corner** – extruded aluminium profile, 61 mm by 61 mm wide and 2,450, 2,750 and 3,000 mm long. The internal corner is available in chromate treated finish.
 - **Innova™ Aluminium External Corner** – extruded aluminium profile, 61 mm by 61 mm wide and 2,450, 2,750 and 3,000 mm long. The external corner is available in chromate treated finish.
 - **Innova™ Horizontal Flashing** – extruded aluminium 'h' profile, 70 mm high, 14 mm wide and 3,000 mm long. The horizontal flashing is available in chromate treated finish.
 - **Innova™ Edge Sealer** – acrylic sealer supplied in a 400 g can, to seal cut edges of Innova™ Duragroove™ or Innova™ Durascape™ sheets prior to installation.
- 4.2 System components and accessories for the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity], which are supplied by the building contractor are:
- **Structural cavity battens** – nominal 50 mm wide by 25 mm thick (minimum finished size of 45 mm wide by 18 mm thick) SG8 framing grade pinus radiata timber cavity battens, treated to Hazard Class H3.1.
 - **Structural cavity batten fixings** – 65 x 2.8 mm Paslode RounDrive®, ring shank galvanised nails.
 - **Joint sealant** – Bostik Seal N' Flex Facade.
 - **Sealant** – Bostik MS Safe Seal for weather sealing.



- **Flexible wall underlay** – building paper complying with NZBC Acceptable Solution E2/AS1, Table 23, or a breather-type membrane covered by a valid BRANZ Appraisal for use as a wall underlay.
- **Flexible wall underlay support** – polypropylene strap at 300 mm centres fixed horizontally and drawn taut for securing the wall underlay in place and preventing bulging of the bulk insulation into the drainage cavity where cavity battens are installed at greater than 450 mm centres. *[Note: Additional vertical battens may also be installed to provide support.]*
- **Rigid wall underlay** – minimum 7 mm thick H3 treated plywood or 6 mm thick fibre cement complying with NZBC Acceptable Solution E2/AS1, Table 23, or a rigid air barrier system covered by a valid BRANZ Appraisal, such as Innova™ Durabarrier™ Rigid Sheathing/Air Barrier, which is covered by BRANZ Appraisal No. 721.
- **Flexible sill and jamb flashing tape** – flexible flashing tape covered by a valid BRANZ Appraisal for use around window and door joinery openings.
- **Cavity vent strip** – PVC, aluminium or stainless steel, punched with 3-5 mm holes or slots complying with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.3.
- **Joinery sill and head flashings** – folded from aluminium or galvanised steel to suit the window or door trim opening. Refer to NZS 3604, Section 4 and NZBC Acceptable Solution E2/AS1, Table 20 for durability requirements.
- **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.

Sheet Fixing

- **Innova™ Duragroove™ and Innova™ Durascape™ sheet nail fixings** – 25 x 1.6 mm stainless steel brad nails, or 30 x 2.8 mm hot-dip galvanised or stainless steel ring shank fibre cement nails. *[Note: Hot-dip galvanising must comply with AS/NZS 4680 and stainless steel must be Grade 304 or 316.]*
- **Innova™ Duragroove™ and Innova™ Durascape™ sheet screw fixings** – 25 x 10 g galvanised steel or stainless steel counter sunk wood screws. *[Note: Galvanised screws must be mechanically zinc plated in accordance with AS 3566.2 Corrosion Class 4 minimum, and stainless steel must be minimum Grade 304.]*
- **Adhesive sealant** – Bostik Seal N' Flex Facade, for fixing Innova™ Duragroove™ and Innova™ Durascape™ sheets to the cavity battens.

Paint System Specification

- 4.3 Paint systems are not supplied by Etex Australia Pty Ltd and have not been assessed by BRANZ and are therefore outside the scope of this Appraisal.
- 4.4 All exposed faces and edges of Innova™ Duragroove™ and Innova™ Durascape™ sheets must be finished with at least two coats of an exterior grade latex acrylic paint system complying with any of Parts 7, 8, 9 or 10 of AS 3730.

Handling and Storage

- 5.1 Handling and storage of all materials supplied by Etex Australia Pty Ltd or the building contractor, whether on-site or off-site, is under the control of the building contractor. Innova™ Duragroove™ and Innova™ Durascape™ sheets must be stacked flat, off the ground and supported on a level platform. They must be kept dry at all times either by storing under cover or by providing waterproof covers to the stack. Care must be taken to avoid damage to edges and surfaces. The sheets must always be carried on edge.
- 5.2 Innova™ aluminium profiles, cavity battens and other 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:
- Innova™ Duragroove™ Wall Cladding System and Innova™ Durascape™ Wall Cladding System Technical Brochure, dated August 2024.
 - Architectural details, Duragroove D00-D28, all dated November 2011.
- 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 Treatment

- 7.1 Timber wall framing behind the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] 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 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. Dwargs must be fitted flush between the studs at maximum 800 mm centres.
- 7.3 Timber framing must have a maximum moisture content of 20% at the time of the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] application. *[Note: If the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] are fixed to framing with a moisture content of greater than 20% problems may occur at a later date due to excessive timber shrinkage.]*

Cavity Battens

- 7.4 The Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] incorporate vertical cavity battens which form the nominal 20 mm cavity behind the Innova™ Duragroove™ or Innova™ Durascape™ sheet. Cavity battens 45 mm wide are required to support all vertical Innova™ Duragroove™ and Innova™ Durascape™ sheet edges and at intermediate studs.

Innova™ Duragroove™ and Innova™ Durascape™ Sheet Set Out

- 7.5 All Innova™ Duragroove™ and Innova™ Durascape™ sheet edges must be supported with vertical edges fixed to the vertical timber battens. Horizontal sheet edges must be supported by the Innova™ Horizontal Flashing as described in the Technical Literature. At the base of the wall, the sheets must hang 50 mm minimum below the supporting framing.
- 7.6 Additional framing may be required at soffits, internal and external corners and window and door openings for the support and fixing of sheet edges.

General

- 8.1 Flexible wall underlays that comply with Table 23 of NZBC Acceptable Solution E2/AS1 may be used with the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] in NZS 3604 Wind Zones up to, and including, Very High. For installations in NZS 3604 Wind Zone Extra High and for wind pressures up to 2.5 kPa ULS, the system must incorporate a rigid wall underlay. When the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] are used for specifically designed buildings up to 2.5 kPa ULS wind pressure, only the weathertightness aspects of the cladding and Innova™ Duragroove™ and Innova™ Durascape™ sheet fixing centres are within the scope of this Appraisal. All other aspects of the building need to be specifically designed and are outside the scope of this Appraisal.
- 8.2 Punchings in the cavity vent strip must provide a minimum ventilation opening area of at least 1,000 mm² per lineal metre of wall in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.3 b).



- 8.3 At ground level, the bottom edge of the Innova™ Duragroove™ and Innova™ Durascape™ sheets 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 NZBC Acceptable Solution E2/AS1, Table 18. The ground clearances to finished floor levels as set out in NZS 3604 must be adhered to.
- 8.4 At balcony, deck or low pitched roof/wall junctions, the bottom edge of the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] must be kept clear of any adjacent surface, or above the top surface of any adjacent roof flashing by a minimum of 50 mm in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.3.6.
- 8.5 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 2.5 kPa design differential 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. For attached garages, wall underlays must be selected in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.3.4. Where rigid underlays are used, the cavity batten fixing lengths must be increased by a minimum of the thickness of the underlay.
- 8.6 Where penetrations through the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] are wider than the cavity batten spacing, allowance must be made for airflow between adjacent cavities. A minimum 10 mm gap must be left between the bottom of the vertical cavity batten and the flashing to the opening.
- 8.7 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 in the Technical Literature have not been assessed and are outside the scope of this Appraisal.

Inter-storey Junctions

- 8.8 Inter-storey junctions must be constructed in accordance with the Technical Literature. Inter-storey joints must be provided to limit continuous cavities to the lesser of two-storeys or 7 m in height, in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.1.9.4 b).

Structure

Mass

- 9.1 The mass of Innova™ Duragroove™ and Durascape™ sheets, when installed on the wall, is 12.5 kg/m² at equilibrium moisture content [EMC]. The Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] are therefore considered a light wall cladding in terms of NZS 3604.

Impact Resistance

- 9.2 The Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] have good resistance to impacts 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

- 9.3 The Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] are 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 up to 2.5 kPa design differential ULS wind pressure where buildings are specifically designed.

Sheet Fixing

- 9.4 The sheets must be mechanically fixed at the centres specified in Table 1 in conjunction with the adhesive sealant [refer to Paragraph 17.7].

Table 1: Innova™ Duragroove™ and Durascape™ sheet fixing centres

Wind Exposure	Fixing Type and Vertical Centres		
	25 mm brad with adhesive*	30 x 2.8 mm fibre cement nail with adhesive*	10 g x 25 mm screw with adhesive*
NZS 3604 Wind Zone Low, Medium, High, Very High, Extra High and wind pressures up to, and including, 2.5 kPa ULS	150 mm	200 mm	200 mm

*Mechanical fixing must be used in conjunction with adhesive sealant. Refer to Paragraph 17.7.

Durability

10.1 The Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] meets the performance requirements of NZBC Clause B2.3.1 [b] 15 years for the Innova™ Duragroove™ and Innova™ Durascape™ sheets and flashings and the performance requirements of NZBC Clause B2.3.1 [c] 5 years for the exterior paint system.

Serviceable Life

- 10.2 Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] installations are expected to have a serviceable life of at least 30 years provided the paint coating to the Innova™ Duragroove™ and Innova™ Durascape™ sheets is maintained in accordance with this Appraisal, and the Innova™ Duragroove™ and Innova™ Durascape™ sheets and fixings are continuously protected by a weathertight coating and remain dry in service. Innova™ Duragroove™ and Innova™ Durascape™ sheets must be painted within three months of installation.
- 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, structural battens and Innova™ Duragroove™ and Innova™ Durascape™ sheets must be fixed with stainless steel or hot-dip galvanised steel fasteners. Fasteners 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 structural battens and Innova™ Duragroove™ and Innova™ Durascape™ sheets 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 to ensure the performance requirements of the NZBC are continually met and to ensure the maximum serviceability of the system.
- 11.2 Regular cleaning (at least annually) of the paint coating is recommended to remove grime, dirt and organic growth, to maximise the life and appearance of the coating. Grime may be removed by brushing with a soft brush, warm water and detergent.
- 11.3 Paint systems must be recoated at approximately 5-10 year intervals in accordance with the paint manufacturer's instructions.
- 11.4 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. The sheets must be checked to ensure the fixings and adhesive bond are sound. 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 relevant manufacturer's instructions.



- 11.5 Minimum ground clearances as set out in this Appraisal and the Technical Literature 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 the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity].]*

Prevention of Fire Occurring

- 12.1 Separation or protection must be provided to the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] from heat sources such as fireplaces, heating appliances and chimneys. Part 7 of NZBC 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

- 13.1 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.

Vertical Fire Spread

- 13.2 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

- 13.3 Where the external wall is not protected by a sprinkler system or separated from the relevant boundary as required by NZBC Acceptable Solution C/AS1 or NZBC Acceptable Solution C/AS2, the cladding system will need to be installed over a fire resistance rated [FRR] external wall with the required FRR.

External Cladding Systems

- 13.4 The Innova™ Duragroove™ and Innova™ Durascape™ sheets achieves a Type A classification suitable for use on external walls in accordance with NZBC Acceptable Solutions C/AS1, Table 5.3.1.1 and NZBC Acceptable Solution C/AS2, Section 5.8.

External Moisture

- 14.1 The Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity], when installed and maintained 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 spaces to meet compliance with NZBC Clause E2.3.5.
- 14.3 The Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] allow excess moisture present at the completion of construction to be dissipated without permanent damage to building elements to meet compliance with NZBC Clause E2.3.6.
- 14.4 The details given in the Technical Literature for weather sealing are based on the principles 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 The Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity], where there is a designed cavity drainage path for moisture that penetrates the cladding, does not reduce the requirement for joints, 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, laundries and other spaces where moisture may be generated or may accumulate.

Water Vapour

- 15.2 The Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] 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.

Installation Information

Installation Skill Level Requirement

- 16.1 Installation of Innova™ Duragroove™ and Innova™ Durascape™ sheets and accessories supplied by Etex Australia Pty Ltd and the building contractor must always be carried out in accordance with the Innova™ Duragroove™ and Durascape™ Technical Literature and this Appraisal by, or under the supervision of a Licensed Building Practitioner [LBP] with the relevant Licence 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 the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity]. 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 and be overlaid with a flexible wall underlay. Proprietary systems, such as Innova™ Durabarrier™ Rigid Sheathing/Air Barrier, shall be installed in accordance with the manufacturer's instructions. Particular attention must be paid to the installation of the wall 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 wall underlay support must be installed over the underlay at maximum 300 mm centres horizontally.

Structural Cavity Battens

- 17.3 Structural cavity battens must be installed vertically over the wall 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. The battens must be fixed in place with 65 x 2.8 mm Paslode RounDrive®, ring shank galvanised nails, at maximum 300 mm centres alternately offset from the centre line by 12 mm. Where a rigid underlay is used, the length of the nail must be increased by a minimum of the thickness of the underlay.

Aluminium Joinery Installation

- 17.4 Aluminium joinery and associated head flashings must be installed by the building contractor in accordance with the Technical Literature. A nominal 10 mm 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.

Innova™ Duragroove™ and Innova™ Durascape™ Sheet Installation

- 17.5 Innova™ Duragroove™ and Innova™ Durascape™ sheets may be cut using either hand or power tools. 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.
- 17.6 Innova™ Duragroove™ and Innova™ Durascape™ sheets must be dry prior to installation. Cut edges must be sealed with Innova™ Edge Sealer, prior to sheet installation.

Innova™ Duragroove™ and Innova™ Durascape™ Sheet Fixing

- 17.7 Innova™ Duragroove™ and Innova™ Durascape™ sheets and cavity battens must be dry and free of dust, prior to application of the Bostik Seal N' Flex Facade. The adhesive sealant must not be applied at temperatures below 5°C. Bostik Seal N' Flex Facade is applied in a continuous 6 mm bead to the cavity battens as described in the Technical Literature. In addition, Innova™ Duragroove™ and Innova™ Durascape™ sheets must be fixed to the cavity battens with either brads, fibre cement nails or screws at the centres detailed in Table 1. The fixings must be positioned a minimum of 18 mm from sheet edges and a minimum of 50 mm vertically from sheet corners.
- 17.8 A 4 mm bead of Bostik Seal N' Flex Facade is applied to the shiplap joint prior to the fitting of the top sheet.

Finishing

- 17.9 Brad or screw holes must be filled with a suitable epoxy filler and sanded flush.
- 17.10 Innova™ Duragroove™ and Innova™ Durascape™ sheets must be finished with a paint coating system that will protect them from moisture. A latex exterior paint system complying with any of Parts 7, 8, 9 or 10 of AS 3730 is suitable.
- 17.11 The paint coating manufacturer's instructions must be followed at all times for application of the paint finish. Innova™ Duragroove™ and Innova™ Durascape™ sheets must be dry before commencing painting.

Inspection

- 18.1 The Technical Literature must be referred to during the inspection of Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] installations.

Health and Safety

- 19.1 Safe use and handling procedures for the components that make up the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] are provided in the manufacturer's Technical Literature.
- 19.2 Cutting of Innova™ Duragroove™ and Innova™ Durascape™ sheets must be carried out in well ventilated areas, and a dust mask and eye protection must be worn. When power tools are used for cutting, grinding or forming holes, safety measures as set out in the Technical Literature must be undertaken because of the amount of dust generated.

Basis of Appraisal

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

Tests

- 20.1 Wind face load and small-scale fastener withdrawal testing for the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] was completed by BRANZ. BRANZ determined design wind suction pressures, and by comparing these with the NZS 3604 design wind speeds and AS/NZS 1170 pressure coefficients, the fixing requirements were determined for timber-framed walls.
- 20.2 BRANZ expert opinion on NZBC Clause E2 code compliance for the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] was based on testing and evaluation of all details within the scope and as stated within this Appraisal. The Innova™ Duragroove™ Facade System was tested to the version of NZBC Verification Method E2/VM1 contained within the NZBC Clause E2, Amendment 5. The testing assessed the performance of the foundation detail, window head, jamb and sill details, meter box head, jamb and sill details, vertical and horizontal joints, internal and external corners. In addition to the weathertightness test, 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.



20.3 Innova™ Nuline™ Plus weatherboard has been tested in accordance with AS/NZS 3837 and achieved a Type A classification. Testing was carried out as per NZBC Acceptable Solution C/AS1, Appendix E, Section E.5.1 and NZBC Acceptable Solution C/AS2, Appendix C, Section C7.1. The results were used to provide an assessment of the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity].

Other Investigations

- 21.1 Structural, durability and fire opinions have been given by BRANZ technical experts.
- 21.2 Site inspections have been carried out by BRANZ to assess the practicability of installation and to examine completed installations.
- 21.3 The Technical Literature for Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] has been examined by BRANZ and found to be satisfactory.

Quality

- 22.1 The manufacture of Innova™ Duragroove™ and Innova™ Durascape™ fibre cement sheets has not been examined by BRANZ, but details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory. BRANZ has taken note of the CodeMark Certification across a range of Etex Australia Pty Ltd fibre cement products.
- 22.2 The quality of materials, components and accessories supplied by Etex Australia Pty Ltd is the responsibility of Etex Australia Pty Ltd. The quality control system of the Innova™ Duragroove™ and Innova™ Durascape™ sheet manufacturer has been assessed and registered as meeting the requirements of ISO 9001 by SAI Global.
- 22.3 Quality of installation on-site of components and accessories supplied by Etex Australia 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, wall underlays, flashing tapes, air seals, joinery head flashings, cavity battens and Innova™ Duragroove™ and Innova™ Durascape™ sheets in accordance with the instructions of Etex Australia Pty Ltd.
- 22.5 Building owners are responsible for the maintenance of the Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity] in accordance with the instructions of Etex Australia Pty Ltd.

Sources of Information

- AS 3730 Guide to the properties of paints for buildings.
- AS/NZS 1170 Structural design actions.
- 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 galvanised [zinc] coatings on fabricated ferrous articles.
- 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.



BRANZ Appraised
Appraisal No. 799 (2019)

BRANZ Appraisal
Appraisal No. 799 (2019)
09 May 2019

INNOVA™ DURAGROOVE™ AND
DURASCAPE™ FACADE SYSTEMS
[CAVITY]

Amendments

Amendment No. 1, dated 06 August 2021.

This Appraisal has been amended to reflect building code updates relating to fire.

Amendment No. 2, dated 31 October 2024

This Appraisal has been amended to update the Appraisal Holder, product name, Technical Literature and to reflect the building code updates relating to fire in Paragraphs 12.1 and 13.1-13.4.



BRANZ Appraised
Appraisal No. 799 [2019]

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09 May 2019

INNOVA™ DURAGROOVE™ AND
DURASCAPE™ FACADE SYSTEMS
[CAVITY]



BRANZ

In the opinion of BRANZ, **Innova™ Duragroove™ and Durascape™ Facade Systems [Cavity]** 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 **Etex Australia 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. **Etex Australia 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 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 **Etex Australia 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 **Etex Australia Pty Ltd** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

09 May 2019