



BRANZ Appraised

Appraisal No. 798 [2019]

BGC DURAGROOVE™ AND DURASCAPE™ FACADE SYSTEMS (DIRECT FIXED)

Appraisal No. 798 [2019]



BRANZ Appraisals

Technical Assessments of products for building and construction.



Appraisal Holder:

**BGC Fibre Cement
Australia Pty Ltd**

Marketed by:

BGC Fibre Cement (NZ)

PO Box 76695

Manukau City

Auckland

Free Phone: 0800 424 234

Tel: 09 273 1457

Fax: 09 273 1461

Email: nz@bgc.com.au

Web: www.bgcinnovadesign.co.nz

Product

- 1.1 The BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] are external, shiplap-jointed, wall cladding systems for residential and light commercial type buildings where domestic construction techniques are used.
- 1.2 The systems consist of vertically fixed Duragroove™ or Durascape™ sheets, flashings and accessories.
- 1.3 The systems are fixed direct to the external wall framing over a wall underlay and are finished with a paint system.

Scope

- 2.1 BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] 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 0-6, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and,
 - situated in NZS 3604 Wind Zones up to, and including Very High.
- 2.2 BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] are appraised for use with aluminium window and door joinery that is installed with vertical jambs and horizontal heads and sills. *[The Appraisal of the BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] relies on the joinery meeting the requirements of NZS 4211 for the relevant Wind Zone.]*



BRANZ

BRANZ

1222 Moonshine Rd,

RD1, Porirua 5381

Private Bag 50 908

Porirua 5240,

New Zealand



Building Regulations

New Zealand Building Code [NZBC]

- 3.1 **In the opinion of BRANZ, BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix], 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. BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] 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. BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] meet this requirement. See Paragraphs 10.1 – 10.4.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. The BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] meet this requirement. See Paragraphs 14.1 – 14.3.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. The BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] meet this requirement and will not present a health hazard to people.

- 3.2 This is an Appraisal of an **Alternative Solution** in terms of New Zealand Building Code compliance.

Technical Specification

- 4.1 System components and accessories for the BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] supplied by BGC Fibre Cement [NZ] are:

Duragroove™ and Durascape™

- Duragroove™ and Durascape™ are 9 mm thick fibre cement sheets, manufactured from BGC 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 sheet is coated on the front face and four edges with a sealer.
- Duragroove™ and Durascape™ sheets are available in sizes of 1200 mm wide and 2450, 2750 and 3000 mm long. Duragroove™ sheets have vertical grooves 4.5 mm wide and 2mm deep at either 100 mm centres [Duragroove™ Smooth Narrow] and 150 mm centres [Duragroove™ Smooth Wide]. Duragroove™ Woodgrain has a textured surface with grooves at 150 mm centres. Durascape™ is a flat sheet. Both Duragroove™ and 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

- **BGC Aluminium Internal Corner** – extruded aluminium profile, 61 mm by 61 mm wide and 2450, 2750 and 3000 mm long. The internal corner is available in chromate treated finish.
 - **BGC Aluminium External Corner** – extruded aluminium profile, 61 mm by 61 mm wide and 2450, 2750 and 3000 mm long. The external corner is available in chromate treated finish.
 - **BGC Horizontal Flashing** – extruded aluminium 'h' profile, 70 mm high, 14 mm wide and 3000 mm long. The horizontal flashing is available in chromate treated finish.
 - **BGC Edge Sealer** – acrylic sealer supplied in 400 g can to seal cut edges of Duragroove™ or Durascape™ sheets prior to installation.
- 4.2 System components and accessories for the BGC Duragroove™ and Durascape™ Direct Fix Facade Systems, which are supplied by the building contractor are:
- **Joint sealant** – Bostik Seal'n'Flex FC.
 - **Sealant** – Bostik MS Safe Seal for weather sealing.
 - **Flexible wall underlay** – building paper complying with NZBC Acceptable Solution E2/AS1 Table 23, or breather-type membranes covered by a valid BRANZ Appraisal for use as a wall underlay.



- **Flexible sill and jamb flashing tape** – flexible flashing tapes covered by a valid BRANZ Appraisal for use around window and door joinery openings.
- **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.
- **Internal corner flashing** – 50 x 50 mm folded aluminium, in accordance with NZBC Acceptable Solution E2/AS1.

Sheet Fixing

- **Duragroove™ and Durascape™ sheet fixings** – Paslode ND 50 x 2.0 mm stainless steel brad nails, or 40 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.]*

Paint System Specification

- 4.3 Paint systems are not supplied by BGC Fibre Cement [NZ] and have not been assessed by BRANZ and are therefore outside the scope of this Appraisal.
- 4.4 All exposed faces and edges of Duragroove™ and 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 BGC Fibre Cement [NZ] or the building contractor, whether on site or off site, is under the control of the building contractor. Duragroove™ and 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 BGC aluminium profiles 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 Refer to the Appraisals listing on the BRANZ Website for details of the current Technical Literature for the BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix]. The Technical Literature must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained within 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 BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] 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. Dwangs 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 BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] application. *[Note: If the BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] are fixed to framing with a moisture content of greater than 20% problems may occur at a later date due to excessive timber shrinkage.]*

Duragroove™ and Durascape™ Sheet Set Out

- 7.4 All Duragroove™ and Durascape™ sheet edges must be supported with vertical edges fixed to the vertical timber framing. Horizontal sheet edges must be supported by horizontal framing as described in the Technical Literature. At the base of the wall, the sheets must hang 50 mm minimum below the supporting framing.
- 7.5 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 BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] in NZS 3604 Wind Zones up to and including Very High.
- 8.2 At ground level, the bottom edge of the Duragroove™ and 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.
- 8.3 At balcony, deck or low pitched roof/wall junctions, the bottom edge of the BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] 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.
- 8.4 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. 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 sheathings are used, the sheet fixing lengths must be increased by a minimum of the thickness of the underlay.
- 8.5 Where the system abuts other cladding systems, designers must detail the junction to meet their own requirements and the performance requirements of the NZBC. Details not included in the Technical Literature have not been assessed and are outside the scope of this Appraisal.

Inter-storey Junctions

- 8.6 Inter-storey junctions must be constructed in accordance with the Technical Literature.

Structure

Mass

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



Impact Resistance

9.2 The BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] 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 BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] are 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.

Sheet Fixing

9.4 The sheets must be mechanically fixed at the centres specified in Table 1.

Table 1: Duragroove™ and Durascape™ Sheet Fixing Centres

NZS 3604 Wind Zone	Fixing Type and Maximum Fixing Centres	
	Paslode ND 50 brad	40 x 2.8 mm fibre cement nail
Low	150 mm	200 mm
Medium	100 mm	200 mm
High	75 mm	200 mm
Very High	n/a	200 mm

Durability

Serviceable Life

- 10.1 The BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] meet the performance requirements of NZBC Clause B2.3.1 (b), 15 years for the BGC Duragroove™ and Durascape™ sheets, and the performance requirements of NZBC Clause B2.3.1 (c), 5 years for the exterior paint system.
- 10.2 BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] installations are expected to have a serviceable life of at least 30 years provided the paint coating to the Duragroove™ and Durascape™ sheets is maintained in accordance with this Appraisal, and the Duragroove™ and Durascape™ sheets and fixings are continuously protected by a weathertight coating and remain dry in service. Duragroove™ and 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 metres 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, Duragroove™ and 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 Duragroove™ and 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 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 BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix].]*

Prevention of Fire Occuring

- 12.1 When Duragroove™ and Durascape™ sheets are finished with a paint coating of not more than 1.0 mm in thickness, clearance separations from chimneys and flues are not required. However when used in conjunction with, or attached to heat sensitive materials, the heat sensitive material must be separated from chimneys and flues in accordance with the requirements of Part 7 of NZBC Acceptable Solutions C/AS1-C/AS6 or NZBC Verification Method C/VM1.

Control of External Fire Spread

- 13.1 The BGC Duragroove™ and Durascape™ Façade Systems [Direct Fixed] has 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 5.8.1 of NZBC Acceptable Solutions C/AS1-C/AS6 and limited to the exterior surface finishes.
- 13.2 Refer to NZBC Acceptable Solutions and Verification Methods C/AS1-C/AS7 and C/VM2 for Requirements for fire rating and exterior surface finish requirements of external walls.

External Moisture

- 14.1 The BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix], 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 BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] 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.
- 14.3 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.

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 BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] 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 Requirements

- 16.1 Installation of Duragroove™ and Durascape™ sheets and accessories supplied by BGC Fibre Cement [NZ] and the building contractor must be completed by tradespersons with an understanding of fibre cement sheet installation, in accordance with instructions given within the BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] Technical Literature and this Appraisal.

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 rest of the BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix]. 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. 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.

Aluminium Joinery Installation

- 17.2 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.

Duragroove™ and Durascape™ Sheet Installation

- 17.3 Duragroove™ and 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.
- 17.4 Duragroove™ and Durascape™ sheets must be dry prior to installation. Cut edges must be sealed with BGC Edge Sealer, prior to sheet installation.

Duragroove™ and Durascape™ Sheet Fixing

- 17.5 Duragroove™ and Durascape™ sheets must be fixed to the framing with either brads or fibre cement nails at the centres specified 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.
- 17.6 A 4 mm bead of Bostik Seal'n'Flex FC is applied to the shiplap joint prior to the fitting of the top sheet.

Finishing

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



Inspection

17.10 The Technical Literature must be referred to during the inspection of BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] installations.

Health and Safety

18.1 Safe use and handling procedures for the components that make up the BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] are provided in the manufacturer's Technical Literature.

18.2 Cutting of Duragroove™ and 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

19.1 Wind face load and small-scale fastener withdrawal testing for the BGC Duragroove™ and Durascape™ Cavity and Direct Fixed Facade Systems 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.

19.2 BRANZ expert opinion on NZBC E2 code compliance for the BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] was based on evaluation of all details within the scope and as stated within this Appraisal. The details contained within the Technical Literature has been reviewed, and an opinion has been given by BRANZ technical experts that the system will meet the performance levels of Acceptable Solution E2/AS1 for direct fixed fibre cement claddings.

19.3 Cone calorimeter testing to determine the peak rate of heat release and total heat release of BGC NuLine weatherboard was completed by BRANZ and the results were used to provide an assessment of the BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix]. The testing was carried out in accordance with AS/NZS 3837.

Other Investigations

20.1 Structural, durability and fire opinions have been given 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 Technical Literature for BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] has been examined by BRANZ and found to be satisfactory.



Quality

- 21.1 The manufacture of Duragroove™ and Durascape™ fibre cement sheet has been examined by BRANZ, including the methods for quality control. Details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.
- 21.2 The quality of materials, components and accessories supplied by BGC Fibre Cement [NZ] are the responsibility of BGC Fibre Cement [NZ].
- 21.3 The quality management system of the Duragroove™ and Durascape™ sheet manufacturer, BGC [Australia] Pty Ltd has been assessed and registered as meeting the requirements of ISO 9001:2008.
- 21.4 Quality of installation on site of components and accessories supplied by BGC Fibre Cement [NZ] and the building contractor is the responsibility of the installer.
- 21.5 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, airseals, joinery head flashings, Duragroove™ and Durascape™ sheets in accordance with the instructions of BGC Fibre Cement [NZ].
- 21.6 Building owners are responsible for the maintenance of the BGC Duragroove™ and Durascape™ Facade Systems [Direct Fix] in accordance with the instructions of BGC Fibre Cement [NZ].

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 3603: 1993 Timber structures standard.
- NZS 3604: 2011 Timber-framed buildings.
- NZS 4211: 2008 Specification for performance of windows.
- Compliance Document for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005 [including Amendment 6, 14 February 2014].
- New Zealand Building Code Handbook Department of Building and Housing, Third Edition [Amendment 12, 10 October 2011].
- The Building Regulations 1992.



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09 May 2019

BGC DURAGROOVE™ AND
DURASCAPE™ FACADE SYSTEMS
[DIRECT FIXED]



In the opinion of BRANZ, **BGC Duragroove™ And Durascape™ Facade Systems [Direct Fixed]** are 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 **BGC Fibre Cement 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. **BGC Fibre Cement 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 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 **BGC Fibre Cement 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 **BGC Fibre Cement Australia Pty Ltd** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

Date of Issue:

09 May 2019