

Appraisal of a Building Product



BGC Stonesheet and Render Tape for use with manufactured or natural stone slip veneers

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General Information

Description of Product

BGC Stonesheet and Render Tape is a system comprising of a fibre-cement sheet and a bitumen based adhesive jointing tape incorporating a non-woven PE backing. The system enables cement based adhesives, which are used with manufactured or natural stone slip veneers and the like, to be applied over a joint between

sheets of the BGC Stonesheet, without the need for a traditional flush-filled jointing system.

This form of jointing is deemed “an alternative solution” as defined by the New Zealand Building Act 2004.

The use of the Render Tape provides a more reliable and time saving method for the weatherproofing of joints between sheets.



C807 Completed Jun 2008
Verification of Clauses B2, and E2
of the New Zealand Building Code and Section
AO.5 (b) (i) of the Australian Building Code



Trade Literature

The application of the Render Tape to the BGC Stonesheet is described in BGC Stonesheet Technical Update - June 2008.

Applicant

The applicant is BGC Fibre Cement (NZ).

Scope & Limitations

Render Tape must be used in conjunction with BGC Stonesheet which has been installed strictly according to the manufacturer's instructions. These instructions are described in the BGC Stonesheet Technical Update - June 2008. The BGC Stonesheet is a non structural substrate suited to slip veneer weights of no more than 60kg per square meter. For weights greater than this obtain technical advice from the slip veneer manufacturer.

Detailed Information

Technical Description

The Render Tape is a single-faced self adhesive tape comprising a non-woven polyester fabric adhered to a film of butyl-rubber, which has high initial tack and adhesion properties.

The tape has been evaluated on a clean dust-free surface of the Stonesheet without the need for sealers or primers.

BGC Stonesheet is a 6.0mm, 7.5mm or 9.0mm thick fibre-cement sheet manufactured to AS2908.2:2008 Cellulose-Cement Products, to Type A—Category 3.

The Stonesheet sheets must be installed using 10g x 65mm stainless steel screws and m6 x 19mm x 1.6mm stainless steel washers compliant with AS3566.2 at 200mm spacings with a 2-3mm gap between sheets.

The tape is installed over the joint with the joint in the centre of the tape.

The tape must be well adhered to the Stonesheet sheets by pressing down on both sides of the adhered tape.

In the situation where the tape is applied to both a vertical and a horizontal joint, the tape is to be

installed so that it overlaps the tape already applied.

Note that the render tape has not been appraised for sheets of Stonesheet which have become damp. Should installed sheets of Stonesheet become damp or contaminated, technical advice from the BGC Stonesheet manufacturer must be sought before application of the Render Tape.

Storage & Handling Issues

Render Tape and BGC Stonesheet sheets can be stored indefinitely when kept in a cool dry location and out of the weather.

It is recommended that care be taken when using sharp knives or the like to cut the Render Tape to the required length.

Specific Performances with the NZ Building Code

Clause B2 - Durability

The Render Tape and BGC Stonesheet when used in accordance with this Appraisal will meet Performance B2.3.1(b) of the New Zealand Building Code. In other words, the product as appraised will be durable for at least 15 years.

Clause E2 – External Moisture

The Render Tape and BGC Stonesheet when used in accordance with this Appraisal will meet Performance E2.3.2 of the New Zealand Building Code.

Specific Performances with the Building Code of Australia

Section A0.5 (b) (i)

The Render Tape and BGC Stonesheet when used in accordance with this Appraisal will meet the Alternative Solution performance requirements of the Building Code of Australia.

How to Install the Product

The BGC Stonesheet sheets are designed to be installed in the vertical position on wall framing with a construction joint gap of 2 to 3mm on each side of each sheet except where a control joint is required for seismic movement. The Render Tape shall be installed immediately before the manufactured or natural stone slip veneers is installed.



The Render Tape is installed over the joint so that the joint is in the middle of the tape. Where two joints intersect the tape is applied over the tape already applied.

Note that the manufactured or natural stone slip veneers shall be installed within three months of the installation of the BGC Stonesheets.

Basis of Appraisal

[Use has been made of the Compliance Verification Procedure to verify compliance with the relevant clauses of the NZ Building Code based on a risk-analysis procedure.]

Clause B2 - Durability

For assessing the durability of the BGC Stonesheet, being not less than fifteen years, an assessment of the In Service history of the BGC Stonesheet installed in both Australia and New Zealand and overseas was made.

In addition the ability of the Stonesheet to maintain its strength using the nominated fixings under both dry and wet conditions, was evaluated.

For assessing the durability of the Render Tape a series of adhesion tests before and after accelerated ageing was carried out.

E2 External Moisture

For assessing the Render Tape adhered to a sample wall using the BGC Stonesheet system, on timber framing, a weathertightness test based on Section 4 of BQI TM414 interim performance Test Method for Weathertightness of Masonry Veneer Claddings, was carried out.

Product QA Information

Render Tape is manufactured to the Japanese Standard JIS Z 0237:2000 and abides to a strict in-house QA criteria.

The New Zealand importer has its own QA System which has been reviewed by BEAL and found satisfactory.

Each carton of product is uniquely identified in compliance with AS/NZS 4859.1.

Maintenance Information

Render Tape and BGC Stonesheet require no maintenance provided they have been installed correctly.

Design Considerations

The correct thickness of BGC Stonesheet shall be chosen according to the requirements set out in the BGC Stonesheet Technical Update - June 2008.

Further Advice

For further information about the most appropriate product for a particular situation please contact the New Zealand distributor, BGC Fiber Cement (NZ) whose contact details are shown on the last page of this appraisal document.

Verification of Performance

Methods Used

- A technical opinion from a laboratory or testing facility - BEAL
- In service history - over 4 years in Australia, 3 years in New Zealand
- Test Report from a laboratory or testing facility - BEAL

[Methods suggested by the Department of Building and Housing]

This appraisal uses the in service history provided by the manufacturer, together with the following test results based on several BQI Test methods used as the 'method' for verifying the required performance described in the relevant clauses of the Building Code.

TEST	METHOD	CRITERIA	RESULT
Shear Adhesion of Render tape	BQI TM801**	<20% reduction in strength after ageing	Pass
Dry & Wet (tensile) Fixing Strength	BQI TM802**	<20% reduction in strength after ageing	Pass
Weathertightness of Render Tape adhered to Stonesheet	BQI TM414**	No leakage at all pressures	Pass

**Based on ASTM test methods

Sources of Information

For information about AS/NZS Test Methods, refer to www.standards.co.nz

For information about ASTM Test Methods, refer to www.astm.com

For information about BQI Test Methods, refer to www.bqi.org.nz

- New Zealand Building Act 2004
- AS2908.2:2008 Cellulose-Cement Products
- AS3566.2 :2002 Self-drilling screws for the building and construction industries—Corrosion resistance requirements
- NASH 3405 - Steel Framed Buildings
- NZS 3604 - Timber Framed Buildings
- E2/AS1, from the Department of Building and Housing
- BGC technical literature
- Render Tape technical literature
- BEAL Test Report 080222
- BEAL Test Report 080602
- BEAL Test Report 080604

Note: Test Results may be requested from BGC Fibre Cement (NZ)

Authorised Signatory -



C. R. Prouse

30 June 2008

C R Prouse - Director

Date of Issue

Conditions of this Appraisal

1. The Products continue to comply with the quality assurance measures of BGC Fibre Cement (NZ). These quality assurance measures have been viewed and approved by BEAL.
2. The products comply with the conditions of this appraisal and with the BGC Stonesheet Technical Update June 2008 Literature.
3. BGC Fibre Cement (NZ) continues to have the product range reviewed and quality assurance programme audited annually by BEAL.
4. The overall quality and performance of the products are maintained.
5. BGC Fibre Cement (NZ) shall notify BEAL of any changes in specification or quality assurance measures prior to them coming into effect.
6. BEAL staff use New Zealand or appropriate international Standards or a BQI Interim Performance Standard (in the absence of a relevant New Zealand Standard) for carrying out testing and assessments. The evaluation of products is performed either at BEAL's facilities or at a nominated laboratory and carried out by experienced and qualified specialists.
7. The system has been tested against one or more of the following criteria which was applicable at the time of the appraisal:
 - a measurable criteria described in the Building Code, or
 - a relevant New Zealand or Australian Standard, or
 - an appropriate requirement set out in a New Zealand Department of Building & Housing document, or
 - a requirement set out in a Building Quality Institute "Interim Performance Standard"
8. BEAL's verification of the building product or system complying with one or more abovementioned criteria is given on the basis that the criteria used were those that were appropriate to demonstrate compliance with the Building Code at the date of this appraisal. In the event that the criteria are withdrawn or amended at a later date, this Appraisal may no longer remain valid.

BEAL's new approval logo is the assurance that a building product complies with the requirements of the New Zealand Building Code.

Using the latest in Australasian and overseas testing and assessment methods and criteria, BEAL's logo is a sign of confidence -

- ◆ Confidence for the architect or designer that the product literature and details will meet their specific needs;
- ◆ Confidence for the Building Certifying Authority that the product has been evaluated in a rigorous manner to demonstrate or otherwise, compliance with the relevant Clauses of the NZ Building Code;
- ◆ Confidence for the builder and installer that the Technical Manuals are clear and easy to understand.

BEAL's new 'Approval Logo' is being promoted throughout the building industry thus ensuring maximum exposure for all products that carry this logo. For further information contact Colin Prouse at BEAL on (+64) 4 233 6661 or e-mail at sales@beal.co.nz



Contact Details



The distributor of the range of 'BGC Stonesheet and Render Tape' is BGC Fibre Cement (NZ).

BGC Fibre Cement (NZ) can be contacted at:
Auckland Office 09 264 1457
Fax 09 264 1459
E-mail bgcnz@orcon.net.nz



BEAL can be contacted at:
Head Office 04 233 6661
Fax 04 233 6662
E-mail sales@beal.co.nz
Web Site <http://www.beal.co.nz>
Further information about this Appraisal can be directed to Mr. Colin Prouse