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BUILDING PRODUCTS & SYSTEMS
Appraisals

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TECHNICAL ASSESSMENT 314
May 2004

Blockaid Termite Barrier System

PURPOSE

A physical barrier against subterranean termite entry to a building, in particular for retaining walls and step downs, perimeters (including narrow cavities, panel walls, infill masonry), vertical joints, slab penetrations, slab joints and joints between pavers.

APPLICANT

Granitgard Pty Ltd (ACN 007 427 590), 141 King George Street, Cohuna, Victoria 3568 (Supplier)



TECHNICAL OPINION

In the opinion of CSIRO Appraisals, Blockaid Termite Barrier System will satisfy the requirements of Australian Standard 3660.1-2000 'Termite management – New building work' as a suitable physical barrier against subterranean termite entry to a building under the following conditions:

1. The System is installed by installers trained and accredited by Granitgard Pty Ltd for:
 - (a) Retaining walls,
 - (b) Perimeters, including narrow cavities, panel walls and infill masonry,
 - (c) Vertical joints,
 - (d) Slab penetrations, including sealing around the Blockaid penetration collar,
 - (e) Slab joints including key, dowel, saw cut and cold joints,
 - (f) Joints between pavers,
 - (g) Sealing off ends of Granitgard stone and strip shielding barriers,
 - (h) Filling gaps in strip shielding at misaligned corners and steps,
 - (i) Filling gaps between strip shielding and termite-resistant concrete,
 - (j) Joining strip shielding where a rigid bond is not required.

Note:

- (i). The Blockaid Termite Barrier System has not been appraised for use north of the Tropic of Capricorn. As a guide the species *Mastotermes darwiniensis* are believed to be located north of the Tropic of Capricorn.
 - (ii). At the time of the Appraisal testing of the effectiveness of the barrier system against *Mastotermes darwiniensis* had commenced. The results of this testing will be reviewed with the possibility of removing this restriction during the term of validity of this appraisal.
2. The System is installed in accordance with the Granitgard Pty Ltd, Blockaid Installation and Training Manual, Version 1.01 (March 2004).
Note: The manual is available on request from
Granitgard Pty Ltd, 141 King George Street,
Cohuna, Victoria 3568
(Facsimile 03 5456 2428).
 3. Inspections are made, at least once a year, to check that no bridging or breaching has taken place.
 4. A durable notice in accordance with BCA requirements (Clause B1.4 (i)(ii) Volume 1 and Part 3.1.3.2 (b), Volume 2) is attached to the building which states that the Blockaid Termite Barrier System is installed.

BUILDING CODE of AUSTRALIA

In the opinion of CSIRO Appraisals, the system described in this Technical Assessment and installed under the conditions listed herein will satisfy the Performance Requirements BP1.1 and BP1.2 (Volume 1 – Class 2-9 buildings) and P2.1 (Volume 2 – Class 1 and Class 10 buildings Housing Provisions) of the Building Code of Australia (2004).

Notes:

- (i) The inclusion of this clause with reference to the BCA is aimed at assisting those involved in the design, specifying and building approval/permit process relate the Appraisal to the relevant Performance Requirements of the BCA.
- (ii) Any changes made to the BCA will be reviewed during the term of validity of this Technical Assessment and, where necessary, any amendment required will be published on the CSIRO Appraisals web pages on <http://www.cmit.csiro.au/Appraisals>.

RELATED INFORMATION

VALIDITY OF THE OPINION

Condition:

This Technical Assessment applies only to the use of the Blockaid Termite Barrier System as described herein.

Withdrawal:

This Technical Assessment will be withdrawn or amended if CSIRO Appraisals considers that a change in design or manufacturing quality renders the basis of the appraisal invalid, or if reported field experience convinces CSIRO Appraisals of unsatisfactory quality or performance.

Term of Validity:

This Technical Assessment will lapse three years after the date of issue unless revalidation has been requested and granted (see back page).

RELEVANT DOCUMENTS

Granitgard Pty Ltd, Blockaid Installation and Training Manual, Version 1.01 (March 2004).
Australian Building Codes Board, Building Code of Australia 2004.
Standards Australia, AS 3660-2000, 'Termite management Part 1. New building work'.
Standards Australia, AS 2870-1996 'Residential slabs and footings - Construction'.

APPROVED OPINION EXTRACT

The Blockaid Termite Barrier System as supplied by Granitgard Pty Ltd, (ACN 007 427 590), 141 King George Street, Cohuna, and installed by installers trained and approved by Granitgard Pty Ltd will satisfy

the performance requirements of AS 3660-2000 'Termite management. Part 1. New building work' as a physical barrier against subterranean termite entry to a building for retaining walls and step downs, perimeters (including narrow cavities, panel walls, infill masonry), vertical joints, slab penetrations, slab joints and joints between pavers, when the conditions of CSIRO Appraisals Technical Assessment 314 are fulfilled.

APPRAISAL

DESCRIPTION

This description is based on information supplied by the applicant.

General:

Blockaid Termite Barrier System is a non-toxic termite resistant product that uses a specially modified bituminous compound to carry various plant extracts. The strong adhesion and flexibility of the modified bitumen combines with the durability of the natural extracts to provide a material that termites will not breach.

Blockaid can be applied to flat or curved surfaces with a brush, roller, special spray unit or trowel. It is also able to be gunned into gaps or grooves. It is able to flex with adjoining materials and maintain a termite resistant bond.

A termite resistant Blockaid barrier can be formed using either a bead (minimum 4mm wet diameter) or fabric reinforced membrane (minimum wet thickness 2.5mm) depending on the application.

The Blockaid membrane barrier is to finish not less than 75 mm above the termite entry point being treated so as to create a termite activity inspection zone.

Service penetrations through concrete slabs may be protected by the Blockaid Penetration Collar or specially installed Blockaid barrier.

Components:

The Blockaid barrier system consists of the following materials:

- Blockaid Primer
- Blockaid Compound
- Blockaid Reinforcing fabric
- Blockaid Dry Mortar Mix
- Blockaid Penetration Collar

The Blockaid Primer is available in 4 litre and 20 litre bottles. The Blockaid Dry Mortar Mix is available in pails or bags. The Blockaid Compound is available in 10 & 20 litre pails, cartridges and sausages. The reinforcing fabric is available in various widths up to 1000 mm.

Installation:

Surfaces to be treated with the Blockaid Termite Barrier System may be at any angle. All surfaces are to be clean

and free from any oil, grease or wax residues and not have loose material or foreign matter on them. Concrete or masonry must be sufficiently cured and must be free from any waterproof or decorative coatings, oils, grease, or incompatible release agents.

Once the surface is suitably cleaned and primed apply either a bead of Blockaid into a suitable gap, groove or corner, or create a membrane by applying a generous coat of Blockaid Compound onto the surface. Roll out Blockaid Reinforcing Fabric over the Compound. Finally coat over the fabric using either a brush, roller or special spray unit until the fabric is well wetted and completely invisible.

Where the Blockaid Barrier is to be exposed to traffic, solvents or direct sunlight, it is to be protected by a water based paint or suitable capping product.

DESIGN INFORMATION

General:

The Blockaid Termite Barrier System can be used as a physical barrier against subterranean termite entry to a building for retaining walls and step downs, perimeters (including narrow cavities, panel walls, infill masonry), vertical joints, slab penetrations, slab joints and joints between pavers.

Durability:

The life expectancy of the physical barrier made by the Blockaid Termite Barrier System would be not less than 50 years provided that the barrier is installed in accordance with the requirements of this appraisal and is not disturbed by mechanical or other means.

BASIS OF APPRAISAL

CSIRO Appraisals has assessed the following aspects in undertaking the appraisal:

- (a) installation procedures,
- (b) physical properties,
- (c) relationship to AS 3660-2000 'Termite management. Part 1. New building work'
- (d) the ability of the installation details to accommodate building movements including foundation movements.

The following documents and inspections were used in carrying out the appraisal.

Manufacturer's and Installation Information:

1. **Granitgard Pty Ltd (ACN 007 427 590), 141 King George Street, Cohuna, Victoria 3568. Blockaid Installation and Training Manual, Version 1.01 (March 2004):**

Details and drawings showing various profiles and methods of fixing for various types of construction.

2. Granitgard Pty Ltd (ACN 007 427 590), 141 King George Street, Cohuna, Victoria 3568. Fax (1st April 2004):

The document provides the specification and drawings of the Blockaid Penetration Collar.

3. Granitgard Pty Ltd (ACN 007 427 590), 141 King George Street, Cohuna, Victoria 3568, Letter (31st March 2004):

The document outlines the quality procedures use for the production and distribution of the Blockaid Termite Barrier System.

4. Granitgard Pty Ltd (ACN 007 427 590), 141 King George Street, Cohuna, Victoria 3568. Material Safety Data Sheet, Blockaid (December 2003):

This document contains the safety data for the Blockaid Termite Barrier System.

5. Granitgard Pty Ltd (ACN 007 427 590), 141 King George Street, Cohuna, Victoria 3568. Material Safety Data Sheet, Blockaid Primer (December 2003):

This document contains the safety data for the Blockaid Primer.

6. Granitgard Pty Ltd (ACN 007 427 590), 141 King George Street, Cohuna, Victoria 3568. Material Safety Data Sheet, Blockaid Dry Mortar Mix (December 2003):

This document contains the safety data for the Blockaid Dry Mortar Mix.

Test Reports

1. CSIRO Division of Manufacturing and Infrastructure Technology, Highett VIC 3190 Report No 2775 (30th March 2004):

This report outlines the satisfactory results for the following tests undertaken on the Blockaid Termite Barrier;

Durability including elongation of break, Moving Joint test to draft AS/NZS 4858.

Water vapour Transmission to ASTM E96.

Impact Resistance to AS/NZS 4347.6:1995.

Water Permeability to AS/NZS 4347.1:1995.

Determination of Pliability to AS/NZS 4347.4:1995.

Determining Thickness to AS/NZS 4347.9:1995.

Water Permeability to AS/NZS 2908.2:2000.

Gravimetric Thickness to AS/NZS 4347.9:1995.

Tensile Adhesion Strength to AS/NZS 4992.2 (Int).

Water Absorption characteristics to AS/NZS 3558.1

2. AMDEL Ltd 35-37 Stirling Street, Thebarton South Australia 5031. Xenon-Arc Weatherometer Testing Report (8th March 2004):

The report shows satisfactory results for the Blockaid Termite Barrier after 200 hours of Xenon-arc accelerated weathering testing.

3. Granitgard Pty Ltd (ACN 007 427 590), 141 King George Street, Cohuna, Victoria 3568 – Assessment Report on resistance of Blockaid Barrier to attack by *Coptotermes acinaciformis* (30th March 2004):

This is a field and laboratory assessment of the Blockaid Termite Barrier which commenced in June 2003 and was first inspected in September 2003. The test is being supervised by Dr John Holt, James Cook University and is ongoing. To date the results have been satisfactory against termite attack.

4. James Cook University – Report on resistance of membrane preparations to attack by the termite *Coptotermes acinaciformis* (30th June 2003):

This is a laboratory assessment of the Blockaid Termite Barrier. The testing of the barrier used has been satisfactory against termite attack.

5. James Cook University – Report on resistance of membrane preparations to attack by the termite *Coptotermes acinaciformis* (28th October 2003):

This is a laboratory assessment of the Blockaid Termite Barrier. The testing of the barrier used has been satisfactory against termite attack.

Inspections:

CSIRO Appraisals representatives have inspected installations of the systems and found the level of performance satisfactory. As with the installation of all physical termite barriers, it was noted that a degree of care and skill, and attention to detail are necessary.



Paul G Bailey
CSIRO Appraisals

CSIRO Appraisals is a project of CSIRO Manufacturing and Infrastructure Technology providing a range of assessment products including:

- Technical Assessments – full fitness for purpose appraisals of innovative products, systems or materials that may or may not be covered by Australian Standards or building regulations.
- Interim Reports – appraisals of products that have not yet reached the fully developed or manufacturing phase. They aid with product development and may be used as a step towards a subsequent Technical Assessment.
- Certification Assessments – appraisals of products, systems or materials solely against the requirements of the BCA and used for gaining approval from Federal or State authorities.

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The Blockaid Termite Barrier System as supplied by Granitgard Pty Ltd, (ACN 007 427 590), 141 King George Street, Cohuna, and installed by installers trained and approved by Granitgard Pty Ltd will satisfy the performance requirements of AS 3660-2000 'Termite management. Part 1. New building work' as a physical barrier against subterranean termite entry to a building for retaining walls and step downs, perimeters (including narrow cavities, panel walls, infill masonry), vertical joints, slab penetrations, slab joints and joints between pavers, when the conditions of CSIRO Appraisals Technical Assessment 314 are fulfilled.