



**“TECHNICAL & COMPLIANCE
INFORMATION”**

*DOCUMENT PREPARED FOR PERSONS WISHING TO CERTIFY
KORDON TERMITE BARRIER AS AN ALTERNATE SOLUTION
BUILDING CODE OF AUSTRALIA 2006.*

*FOR A SEPARATE SUMMARY OF BAYER KORDON TERMITE BARRIER
TECHNICAL & COMPLIANCE DATA, PLEASE VISIT THE WEB SITE: -*

www.kordontmb.com.au/specifyingkordon/

PLEASE NOTE: -

Bayer has engaged the services of Global-Mark to assess the Kordon System as compliant with CodeMark. Global-Mark has been assessed, by the Joint Accreditation Scheme of Australia and New Zealand (JAS-ANZ), as competent to assess products for CodeMark. JAS-ANZ is the organization appointed by the Australian Building Codes Board to verify the competence and impartiality of CodeMark certification bodies.

TERMITE MANAGEMENT MEASURES

References: -

BUILDING CODE of AUSTRALIA, 2006. VOLUME ONE /VOLUME TWO

- V1 Part A0.8 Alternative Solutions
- V1 Part A0.9 Assessment Methods
- V1 Part A0 10 Relevant Performance Requirements
- V1 Part A2.2 Evidence of Suitability
- V1 Part A2.2 (a) (i) *Registered Testing Authority*
- V1 Part A2.2 (a) (ii) *Certificate of Conformity* (see * below)
- V1 Part A2.2 (a) (iii) *Certificate from Professional Engineer*
- V1 Part A2.2 (a) (vi) *Other forms of documentary evidence*
- V2 Part 2.1 P2.1 Structural stability and resistance to actions
 - P2.1.1 State and Territory Variations
- V2 Part 3.1.3 Termite Risk Management
 - 3.1.3.0 Acceptable Construction Manual
 - 3.1.3.2 Installation of Termite Barriers
 - Table 3.1.3.1 Acceptable Termite Barriers
 - Note the State and Territory Variations that apply for Queensland
 - 3.1.3.3 Barriers for concrete slab-on-ground
 - 3.1.3.4 Barriers for suspended floors
 - 3.1.3.5 Attachments to buildings

AUSTRALIAN STANDARDS

- AS 3660.1-2000 Termite management Part 1 New building work
- AS 3660.3-2000 Assessment Criteria for termite management systems
- AS 2870, 1996 Residential slabs and footings – Construction

CSIRO APPRAISALS

- CSIRO Technical Opinion 216
- CSIRO Technical Opinion 255

OTHER REFERENCES

- Bayer Kordon Termite Barrier Reference Manual
- Building Codes Board, Building Newsflash 8th May 2006.
- CSIRO correspondence dated 4th May 2006.
- Complete log of Kordon Termite Barrier Reports
- Declaration of Design Life
- Homeowner Responsibilities
- Notice of Reasons

* The Kordon Certificate of Conformity expired on 13th March 2006.

Extract from Building Codes Board Newsflash 8th May 2006 “*certificates of conformity are no longer issued by the ABCB but some may still be current and still have protection given by SBR. Details of current certificates can be obtained from the ABCB at www.abcb.gov.au. Systems that were previously issued with a certificate of conformity in Queensland and which have recently expired should still be suitable for use provided the system is consistent with the details contained in the certificate of conformity*”.

BUILDING CODE OF AUSTRALIA 2006.

AO.8 Alternative Solutions

- (a) *An alternative solution must be assessed according to one or more of the Assessment Methods*
- (b) *An Alternative Solution will only comply with the BCA if the Assessment Methods used to determine compliance with the performance requirements have been satisfied*
- (c) *The Performance Requirements relevant to an Alternate Solution must be determined with **1.0.10***

AO.9 Assessment Methods

The following *Assessment Methods*, or any combination of them, can be used to determine that a Building Solution complies with the *Performance Requirements*:

- (a) *Evidence in support that the use of a material, form of construction or design meets a Performance Requirement or a Deemed-to-Satisfy Provision as described in **1.2.2***
- (b) *Verification Methods such as—*
 - (i) *the Verification Methods in the BCA; or*
 - (ii) *such other Verification Methods as the appropriate authority accepts for determining compliance with the Performance Requirements*
- (c) *Comparison with the Deemed-to-Satisfy Provisions*
- (d) *Expert Judgement*

AO.10 Relevant Performance Requirements

The following method must be used to determine the *Performance Requirement* or *Performance Requirement* relevant to an *Alternate Solution*.

- (a) *Identify the relevant Deemed-to-Satisfy Provision of Section 3 that is to be subject of the Alternate Solution*
- (b) *Identify the Performance Requirements from Section 2 that are relevant to the identified Deemed-to-Satisfy Provisions*
- (c) *Identify Performance Requirements from other parts of Section 2 that are relevant to any aspects of the Alternate Solution proposed or that are affected by the application of a Deemed-to-Satisfy Provisions that are the subject of the Alternate Solution.*

BUILDING CODE of AUSTRALIA 2006.

A2.2 Evidence of suitability

- (a) Subject to 1.2.3 and 1.2.4, evidence to support that the use of a material, form of construction or design meets a *Performance Requirement* or a *Deemed-to-Satisfy Provision* may be in the form of one of the following methods:
 - (i) A report issued by a *Registered Testing Authority*, showing that the material or form of construction has been submitted to the test listed in the report, and setting out the results of those tests and any other relevant information that demonstrates its suitability for use in a building
 - (ii) A current *Certificate of Conformity* or a current *Certificate of Accreditation*
 - (iii) A certificate from a *professional engineer* or other appropriate qualified person which
 - (A) certifies that a material, design or form of construction complies with the requirements of the *Housing Provisions*; and
 - (B) sets out the basis on which is given and the extent to which relevant specifications, rules, codes of practice or other publications have been relied upon.
 - (iv) A current certificate issued by a product certification body that has been accredited by the Joint Accreditation Scheme of Australia and New Zealand (JAS-ANZ)
 - (v) A current SSL Product Listing Data Sheet and listing in the latest issue of the Scientific Services Laboratory Register of Accredited Products ---Fire Protection Equipment.
 - (vi) Any other form of documentary evidence that correctly describes the properties and performance of the material or form of construction and adequately demonstrates its suitability for use in the building.
- (b) Any copy of documentary evidence submitted, must be a complete copy of the original report or document

BUILDING CODE of AUSTRALIA 2006.

In Queensland after P2.1 insert P2.1.1 as follows:

P2.1.1

- (A) The risk of primary building elements in a class 1 or 10 building being damaged by subterranean termites must be adequately minimised by the use of a suitable termite management measure that---
 - (i) if it serves a non-temporary Class 1 building, has a design life of at least 50 years; or
 - (ii) if it serves a building not specified in (i) has a design life of at least 50 years or the specified design life of the building, whichever is the lesser; or
 - (iii) is easily and readily accessible for replenishment and is capable of being replenished or replaced (NOTE not applicable)

- (B) A termite management measure required by (a), to the degree necessary, must---
 - (i) be accessible to enable the installation, maintenance and inspection of the termite management measure to be carried out; and
 - (ii) incorporate suitable measures to adequately minimise the risk of the termite management measure inadvertently being damaged, bridged or breached.

3.1.3 Termite Risk Management

3.1 Primary Building Elements

3.1.3 Application of this Part

3.1.3.1 Flow chart for identifying if a termite barrier is required

3.1.3.0 Acceptable Construction Manual – State and Territory Variations

3.1.3.1 Acceptable Construction Practice – State and Territory Variations

3.1.3.2 Installation of Termite Barriers

3.1.3.3 Barriers for concrete slab-on-ground

3.1.3.4 Barriers for suspended floors

3.1.3.5 Attachments to buildings

BUILDING CODE of AUSTRALIA 2006.

Australian Standard 3660.1-2000 New Building Work

1.3 UNSPECIFIED SYSTEMS AND MATERIALS

This Standard should not be interpreted as preventing the use of systems and materials that meet the performance criteria set out in the Standard, but are not specifically referred to in it. Criteria for the assessment of termite management systems are detailed in Australian Standard 3660.3,2000.

Note: The inclusion of performance criteria in this standard provides flexibility and allows for the use of alternative systems; however, the alternative system has to be verified as meeting the level of performance described in the performance criteria. Building regulations typically provide that acceptance of alternatives to the deemed-to-satisfy requirements is the prerogative of the relevant regulatory authority.

Where performance criteria have not been selected in this Standard, equivalence with the relevant deemed-to-satisfy requirements is to be achieved as a means of verifying the adequacy of an alternate system.

Australian Standard 3660.3-2000 Assessment Criteria for termite management systems

SECTION 2 ASSESSMENT METHODOLOGY

2.5 Field Assessments

- 2.5.1 General**
- 2.5.2 Site criteria**
- 2.5.3 Termite species**
- 2.5.4 Experimental design**

The exposure period may vary, depending on the intended durability of the system. Assessments of termite-resistant cellulosic or non-cellulosic materials shall be for a minimum of 36 months, unless otherwise stated in this Standard

Experimental and reference controls shall be included and, where applicable, the pressure of termite feeding or certain behaviours (such as tunnelling, aggregation etc) shall be confirmed by comparison with these controls. In order to sustain termite presence and site attractiveness, materials that are critical for maintaining termite pressure on the termite management systems or its components shall be replenished. Apart from the test materials and any provision of extra food and water, termite colonies and populations shall not be further manipulated.

The field Assessment method shall incorporate at least five replicates per site for two or more sites.

Termite Activity shall be monitored at least annually. Descriptions of measures of the level or extent of termite activity shall be included in the report.

At the end of the trial, the site environment shall be restored by the removal of all materials.

CSIRO TECHNICAL ASSESSMENTS

CSIRO Technical Assessment 216 and Technical Assessment 255

NOTE: Technical Assessments were the responsibility of the Australian Building Systems Appraisal Council Ltd, (ABSAC). CSIRO assumed this responsibility. Technical Assessments are re-validated every three years.

The Building Code of Australia has now set a requirement for termite management systems to have a design life of 50 years. See page.5

At present there is no standard agreed method for assessing the durability of a termite management system and as result CSIRO requests those seeking a Technical Assessment, or to retain one, to make a written declaration that the system design life meets the requirements. For some systems this declaration is made with very limited data to back up the declaration.

For Kordon, Bayer is able to make a declaration confidently predicting the required durability. In the section on Technical Assessments the section it reads: -

“To meet the requirements of Clause P2.1.1 (relevant to Qld only) (volume 2 –Class 1 and Class 10 buildings) of the Building Code of Australia 2006, the applicant has provided evidence of the system design life, which is set out in the Durability section of this Technical Appraisal. This is relevant for the system described in this Technical Assessment and installed under the conditions listed in this Technical Assessment”

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 Requirement of the BCA.
- (ii) Any change 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 page on <http://www.cmit.csiro.au/Appraisals>.
- (iii) The BSA has AS3660.1-2000 as Deemed-to-Satisfy to comply for protection from concealed termite entry

BUILDING CODE of AUSTRALIA 2006.

Declaration of the design life of Kordon Physical Termite Barrier

Bayer Environmental Science, declare under our sole responsibility that:

- Kordon has been designed to achieve a service life of 50 years during which period the constituent components are expected to maintain efficacy and in combination function as a termite barrier in accordance with: -

Australian Standard 3660.1-2000;
Building Code of Australia 2006.

- Kordon has been designed in accordance with a quality management system that incorporates a set of rules for the design, manufacture, installation and maintenance of all elements of the system; and
- the components used in the manufacture of Kordon have been selected for their intended purpose and are expected to operate in accordance with their specification for the duration of the design life.

The durability of Kordon as a termite barrier has been under evaluation by the CSIRO Division of Entomology since 1989. This has been conducted at several locations with exposure to *Coptotermes acinaciformis* and *Mastotermes darwiniensis*. Kordon has been placed in positions of extreme termite pressure and has not been penetrated.

CSIRO has also tested Kordon containing lower concentrations of insecticides. Termiticides concentrations as low as 10% of the minimum commercial rate have proven effective for many years. Studies of the rate of degradation of the termiticide in Kordon allow estimation of the period before the concentration drops below the level that provides an effective barrier against termites.

Using the results of these two tests, it can be demonstrated, via modelling, the service life of Kordon to be at least 50 years and expected to still be functional after 60.

Building Codes Queensland Building Newsflash 8th May 2006.

- *Declaration on design life by the manufacturer.* “Manufacturers of any product are obliged to comply with the Trade Practices Act 1974, and the Fair Trading Act 1989. These acts make it unlawful for a person to falsely represent that goods are of a particular standard quality, value, grade or composition and consumers may have statutory remedies for defective goods that do not conform to design requirements. Reasonable reliance should therefore be able to be placed on the manufacturer’s claims on the anticipated design life of a system. Manufacturers are generally able to back up their claims with evidence such as opinion by an expert in the particular field, scientific data resulting from field or laboratory trials etc. This was the approach taken by the Department when assessing applications for certificates of conformity.

BUILDING CODE of AUSTRALIA 2006.

TERMITE MANAGEMENT MEASURES

HOMEOWNERS RESPONSIBILITIES

BOTH THE BUILDING CODE OF AUSTRALIA AND THE AUSTRALIAN STANDARD 3660 SERIES RECOMMEND THAT TERMITE INSPECTIONS AT LEAST ANNUALLY, BE CARRIED OUT.

Australian Standard 3660.2-2000

SECTION 2 ADVICE TO BUILDING OWNERS AND OCCUPIERS

2.1 SCOPE OF SECTION

This section sets out recommended procedures for building owners and occupiers to reduce the susceptibility of a building to attack by termites and to maintain the integrity of termite management systems. It provides basic information on termite activity and maintenance of termite management systems.

NOTE: Further reading on these topics is encouraged

2.9 INSPECTIONS ---- FREQUENCY

The building owner should ensure that regular inspections of the building are carried out by a person competent in Unit 8 of the National Pest Management Competency Standards, or equivalent, and in accordance with Section 3 of this Standard.

3.1 SCOPE OF SECTION

This section sets out the procedure for the inspection and detection of termite activity and termite-conducive conditions with a view to determining appropriate termite management options.

3.2.4 Frequency of inspections

Regular, competent inspections should be carried out at least on an annual basis but more frequent inspections are strongly recommended

Advice should be sought from your competent Termite Inspector as to just how frequently your building should be inspected as he should be aware of the termite pressure under which your building is placed.

Commercial publication for the detection of termites including tips for Homeowners to discourage termites, are available.

NOTE: Failure to conduct regular, competent inspections may void some building or insurance warranties.

NOTICE OF REASONS
BUILDING ACT 1975 & BUILDING REGULATIONS 2006.

BAYER KORDON TERMITE BARRIER HAS BEEN SELECTED FOR
INSTALLATION TO THE UNDERMENTIONED: -

SITE ADDRESS: _____

Real Property Description: _____

BUILDING CONTRACTOR: _____

PERMIT NUMBER: _____

BUILDING WORKS: _____

I have read the Bayer Environmental Science Documentation and am satisfied the evidence provided, demonstrates Kordon Termite Barrier complies as an Alternate Solution under the Building Code of Australia 2006.

Building Certifier:Signature.....

BSA Licence Date

Building Contractor:

Signature:

BSA Licence Date

Client Name /s (if applicable).....

Client Signature (if applicable)

.....

..... Date: