PPM PROTECTANT PEST MANAGEMENT

ORKIN AUSTRALIA

# *Termigreen*™ Termite Barrier Systems

## Architects, Engineers and Builders Installation and Specification Guide

TERMITE *Termigreen*™ BARRIER

THEWHITEANTCO.

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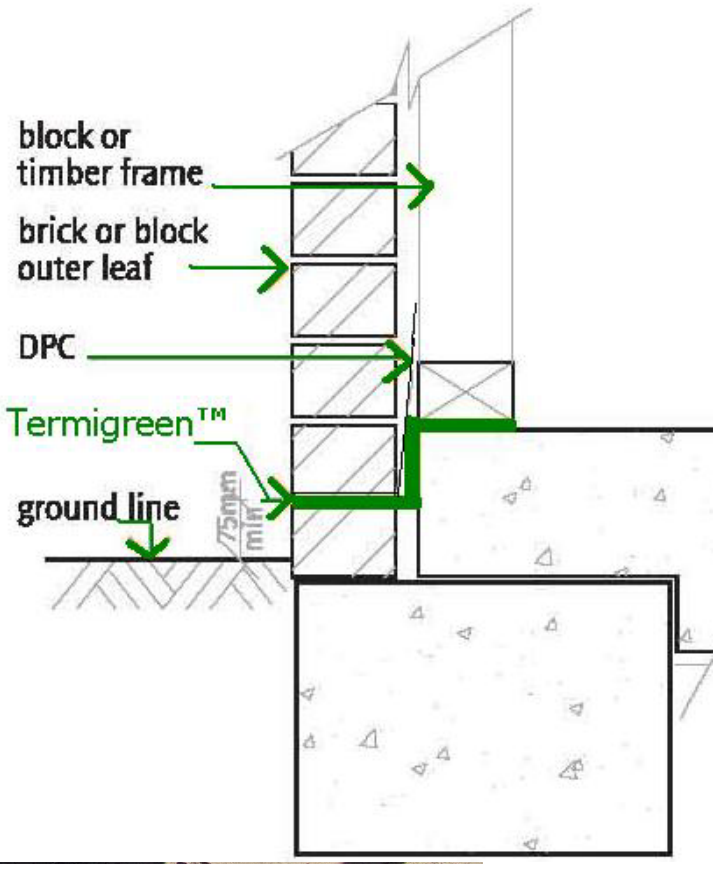
# *Termigreen*™ Termite Barrier Systems

- Constructed from durable geotextile strengthened by the impregnation with a patented termite resistant bonding agent
- Termites are repelled and killed
- 50+ years durability
- No other system offers all these benefits
- Complete coverage of cavity area
- Flexibility for all construction methods



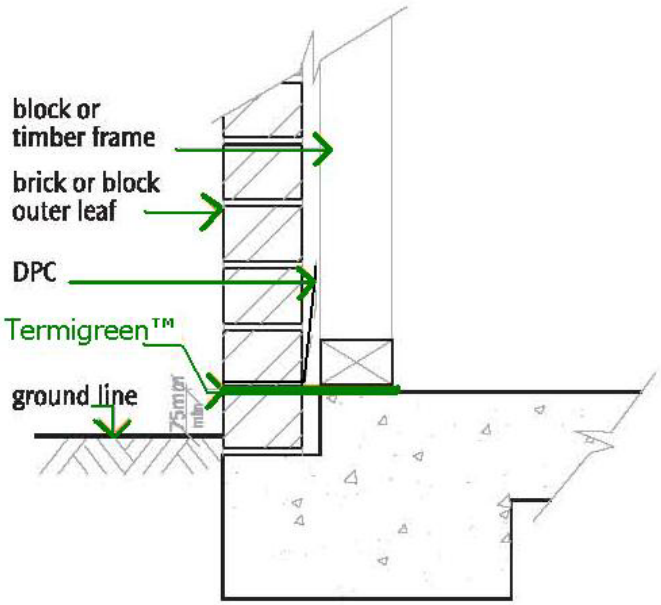
Termigreen™ Termite Barrier System.
Product description

The Termigreen™ Termite Barrier System is a specialised termite resistant impregnated polyester fabric (polymer) termite barrier system. Our company has engaged the services of: CertMark International Pty Ltd ABN 80 111 217568. As auditor for compliance with the BCA under the “Codemark System”, this process follows that of our product “ProtectAnt ™ Termite Barrier System”.

General:

The perimeter barriers, construction joints barriers, suspended floor barriers and slab penetration collars are made from a polyester fabric (polymer) impregnated with a termite resistant compound by a factory process or PVC collar, used as a physical barrier to prevent the concealed entry of subterranean termites into the structure. The perimeter barrier is placed to finish at the face of the external brickwork or to the face of the applied finish material and fixed to the slab. The barrier is placed finished not less than 75mm above finished ground level or not less than 25mm where concrete or similar materials abut the perimeter of the structure. Where it is not possible to achieve a minimum inspection zone of 25 mm, a secondary barrier must be installed.

The Termigreen™ Termite Barrier System slab penetration flanges are fitted to the slab penetration pipe and held in position on the pipe penetration by means of a set size PVC collar or cable tie. The slab penetration flange or polymer fabric are placed at a mid slab depth and below the finished slab height. The pipe penetration collars may be fitted prior to concrete pour or retrofitted.

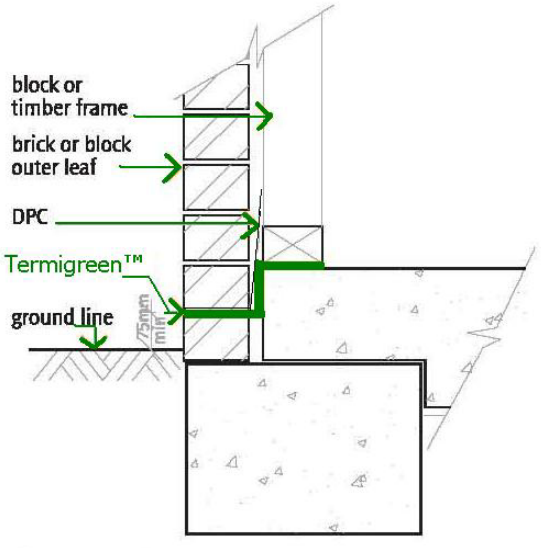


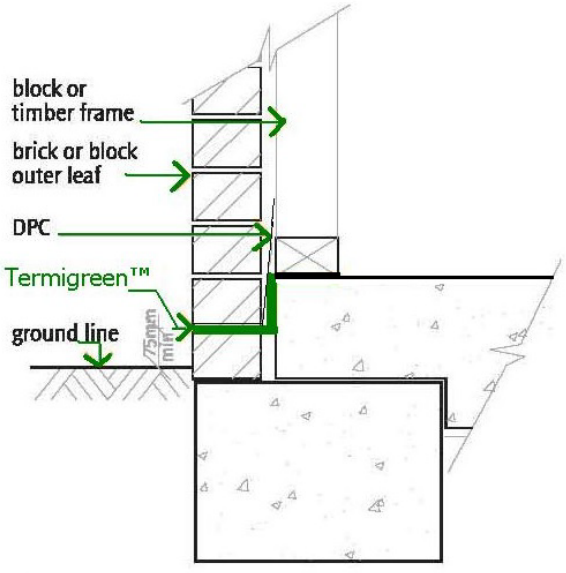
Termigreen™ Termite barrier system.
Product description

Components:
Termigreen™ barrier impregnated with AD-TR-SC Green
PVC minimum 1.00mm with a D shore of better than 80
Following the technical assessment for CodeMark, the materials used in this barrier system has a serviceable life that will exceed 50 years.
In summary:

The Termigreen™ termite management system offered for installation on your projects will provide “whole of building protection against concealed entry by subterranean termites into the structure” as per the Australian Standards code AS3660.1 of 2014 and the total system complies with the requirements of the BCA and the Queensland amendments related to termite barrier systems.

Please review the following documents as compliance.
Technical Assessment of Protectant Pest Management termite management systems for Codemark.
Installation drawings are assessable on our website http://www.protectantpestmanagement.com.au and / or an Installation Manual can be supplied on request.



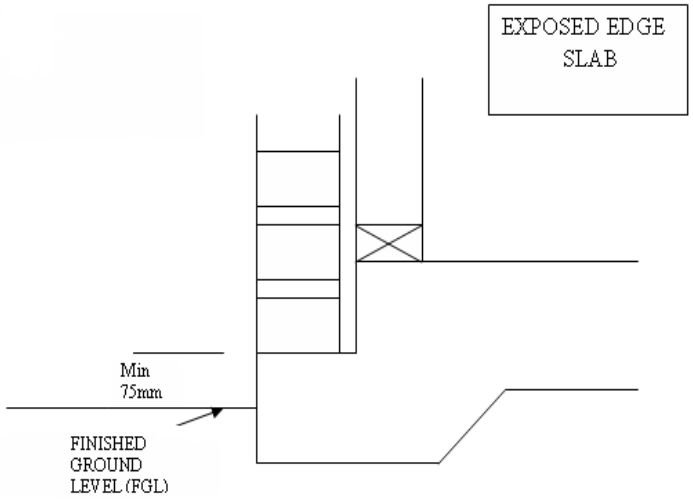



# PERIMETER BARRIER INSTALLATIONS

No perimeter barrier installation is to be commenced without first inspecting the slab for problems such as drummy areas caused by frame anchor bolts or nails.

These need to be repaired or isolated from the perimeter barrier. The slab edge has to be as free of dust as possible through brushing. All slurry should be removed from the rebate as this may reduce the bonding ability of the adhesive.

The performance of the adhesives and therefore the entire barrier system is affected by poor preparation –



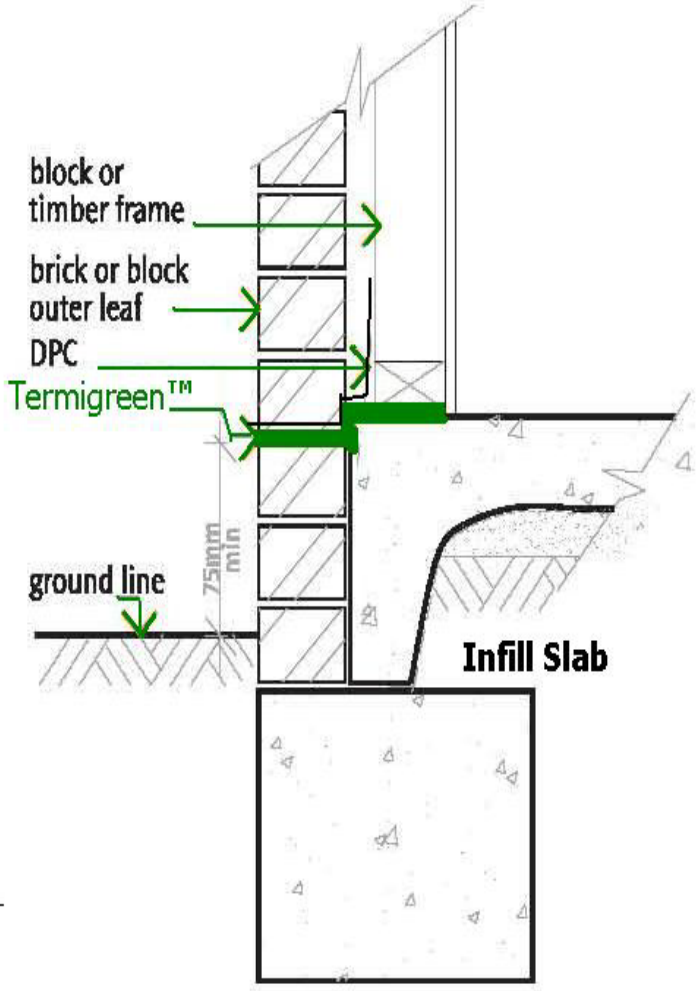

When an exposed edge slab is to be utilised there is no instance when the visual inspection zone can be decreased below 75mm to either finished ground level or to a hard surface such as concrete or paving.

To reduce the visual inspection zone a secondary barrier must be installed.

Clean the brick work and rebate of any dirt, slurry or mortar using a bolster before blowing or sweeping clean.

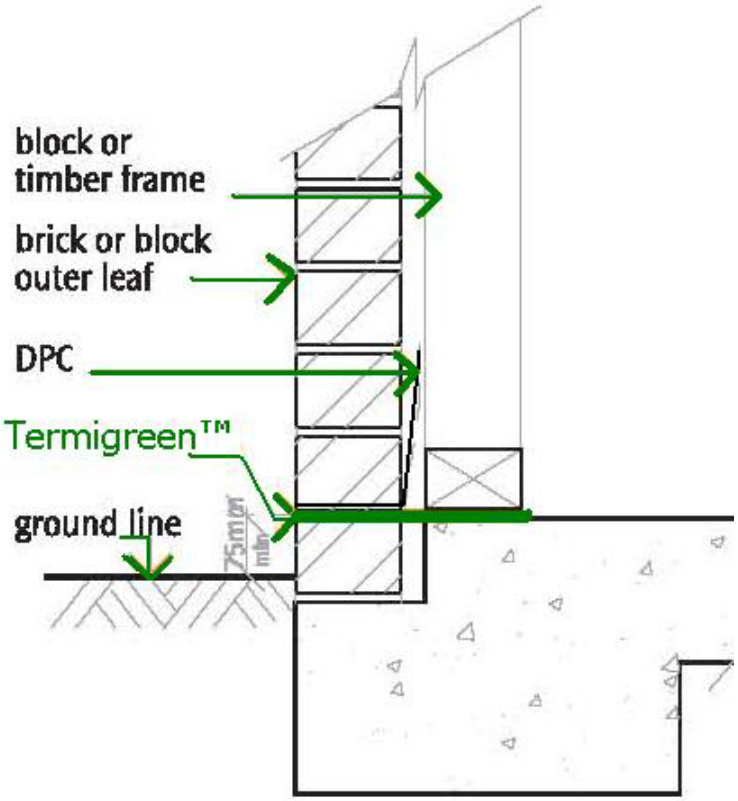
**Infill Slab Installation.**

Termigreen™ Termite barrier is installed by gluing or pinning to the top of the infill slab, this will cover the area under the bottom plate. The Termigreen™ barrier is folded out across the brickwork and all corners are sealed with the approved adhesive.



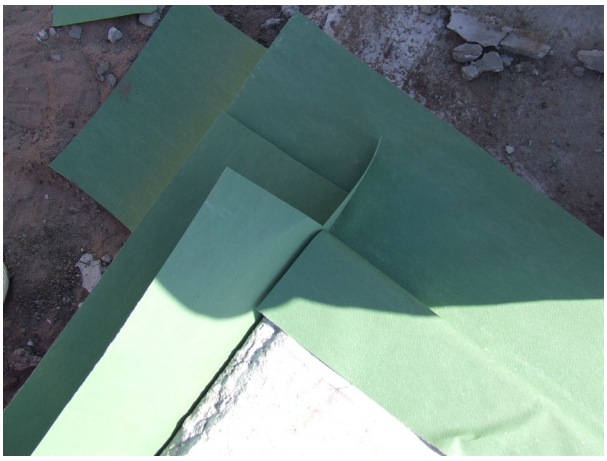

**Rebated Slab Installation.**

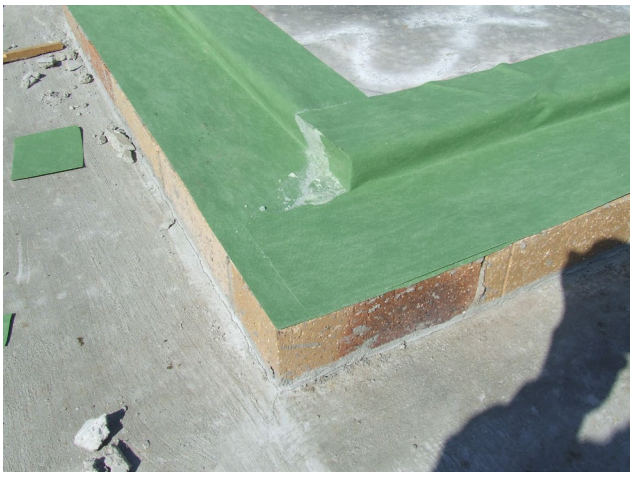
Termigreen™ Termite barrier is installed by gluing or pinning to the top of the I slab, this will cover the area under the bottom plate. The Termigreen™ barrier is extended off the slab edge so as to cover the brickwork when erected and then all corners are sealed with the approved adhesive.



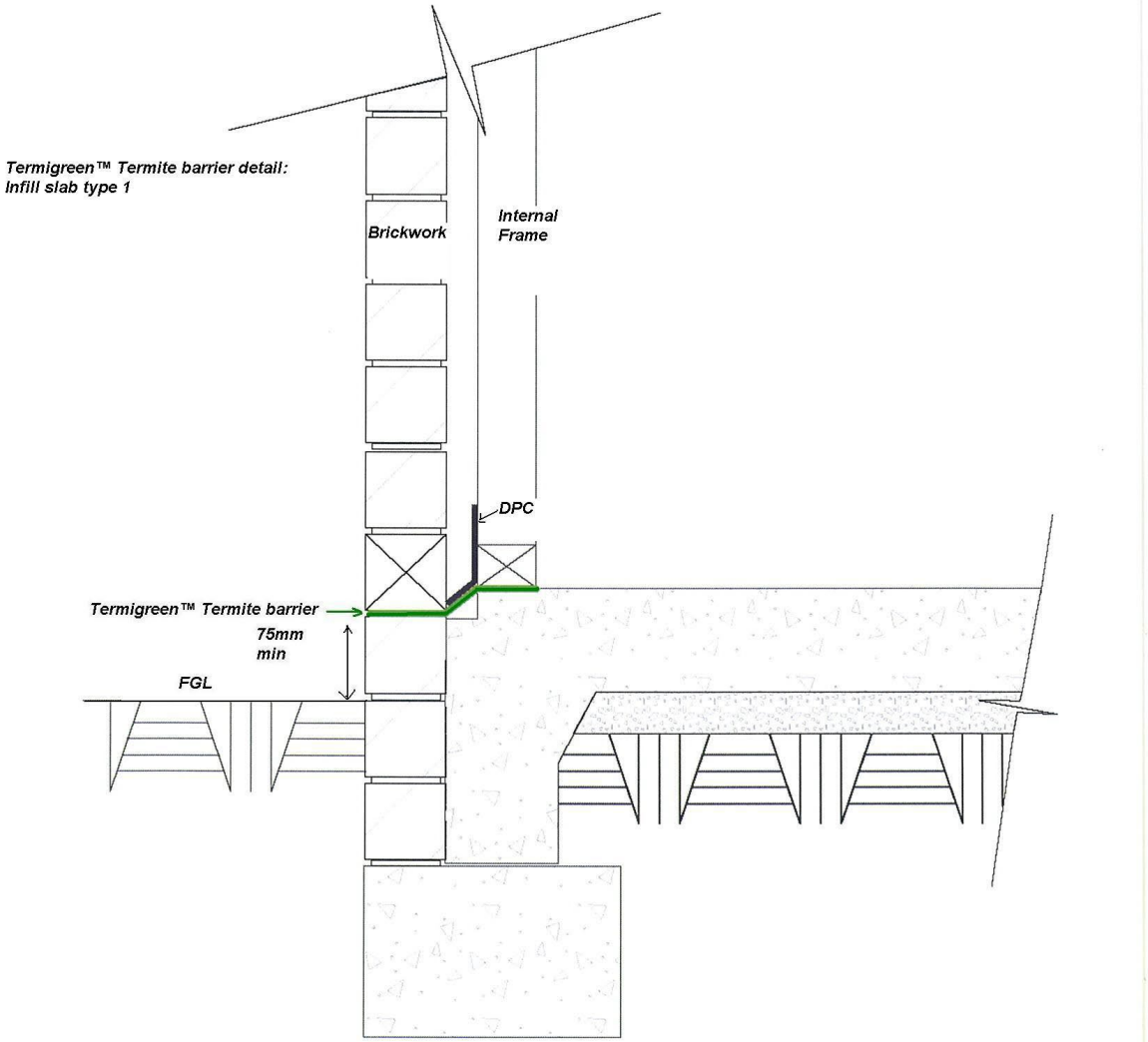
**Corners and Joints.**

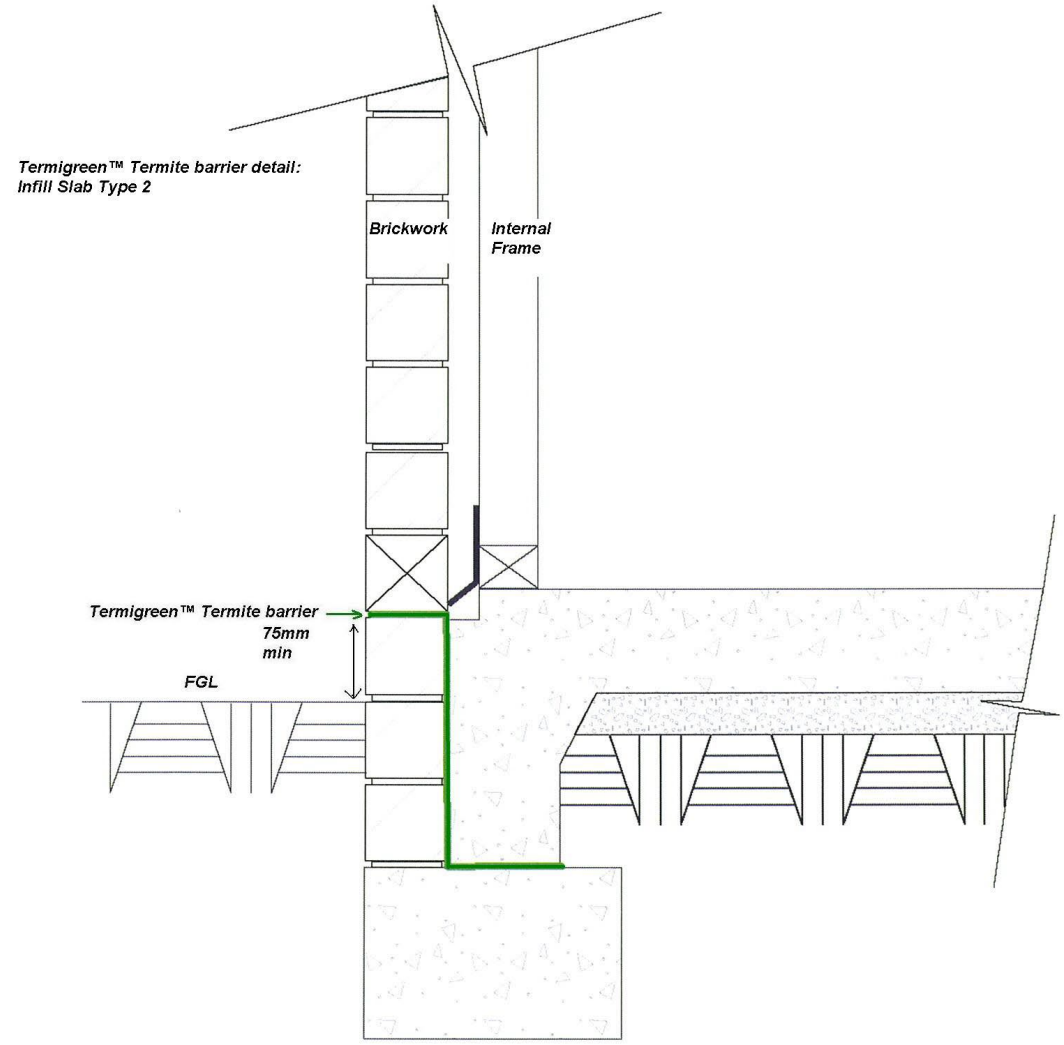
All corners and joins in the Termigreen™ Termite barrier will be at minimum 50mm and will be sealed with an approved adhesive.



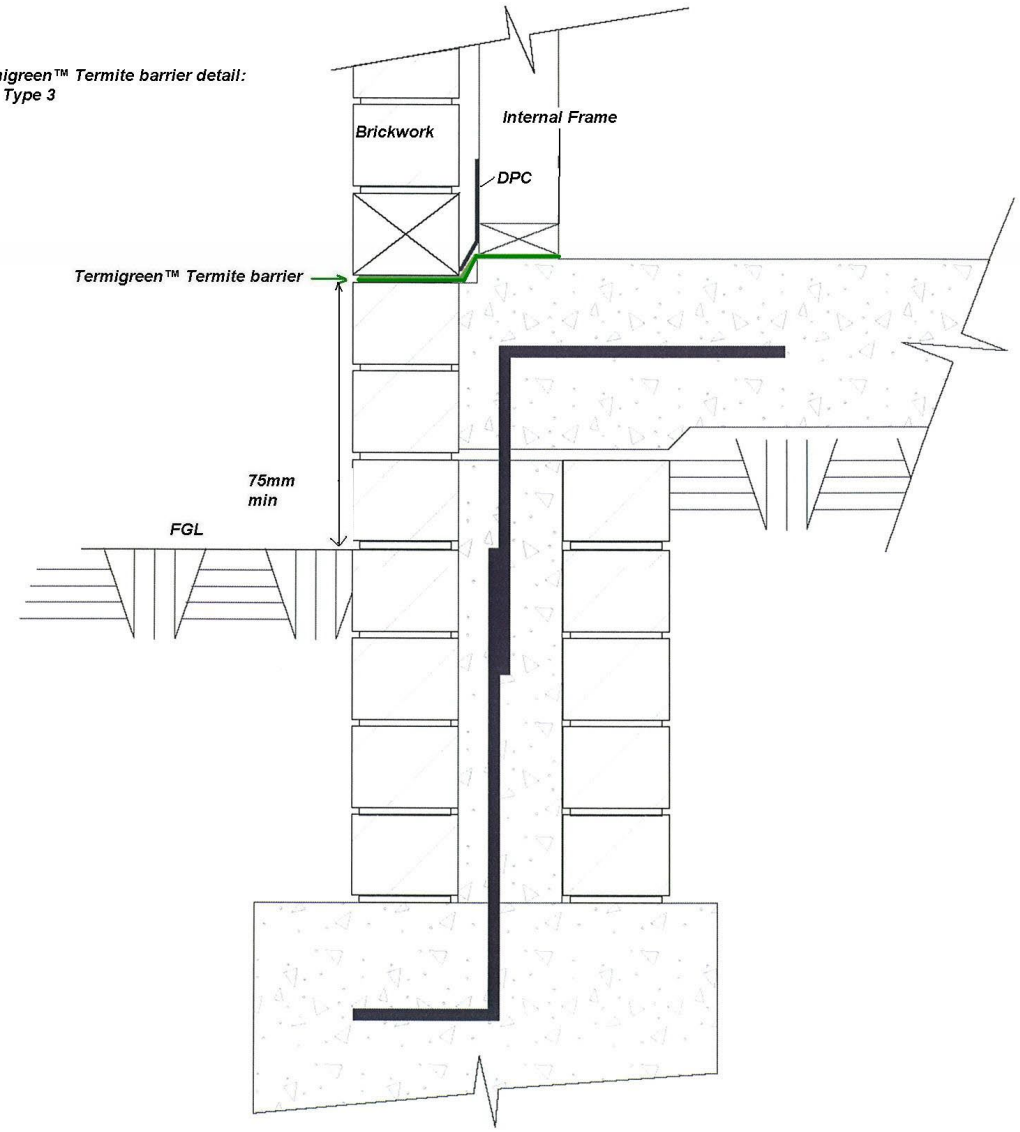


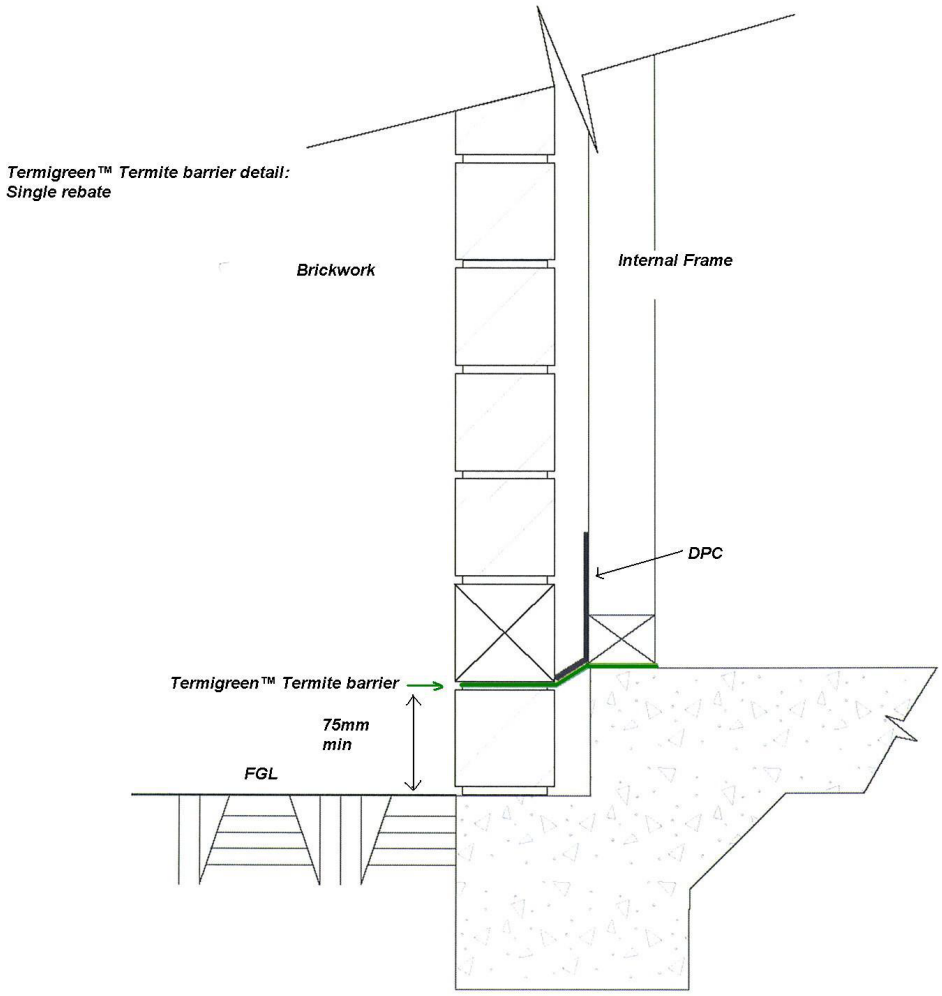
All penetrations through the Termigreen™ Termite barrier will be patched with an additional layer of Termigreen™ Termite barrier and fixed in place with an approved adhesive.

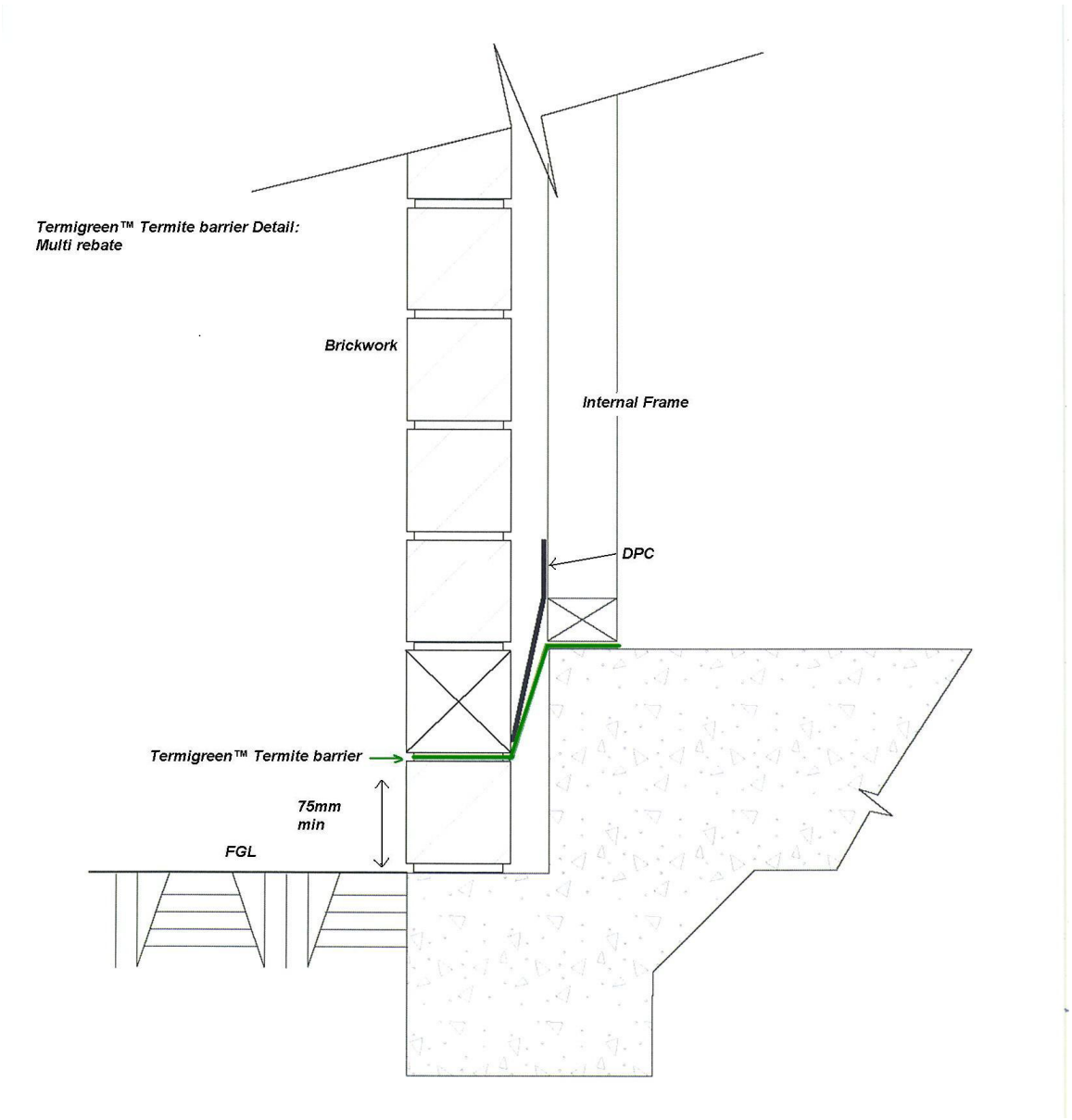

Termigreen™ Termite barrier detail:
Infill slab type 1
Brickwork
Internal
Frame
DPC
Termigreen™ Termite barrier
75mm
min
FGL


Termigreen™ Termite barrier detail:
Infill Slab Type 2
Brickwork
Internal
Frame
Termigreen™ Termite barrier
75mm
min
FGL

*Termigreen™ Termite barrier detail:*
*Infill Type 3*




Termigreen™ Termite barrier detail:
Single rebate
Brickwork
Internal Frame
DPC
Termigreen™ Termite barrier
75mm
min
FGL

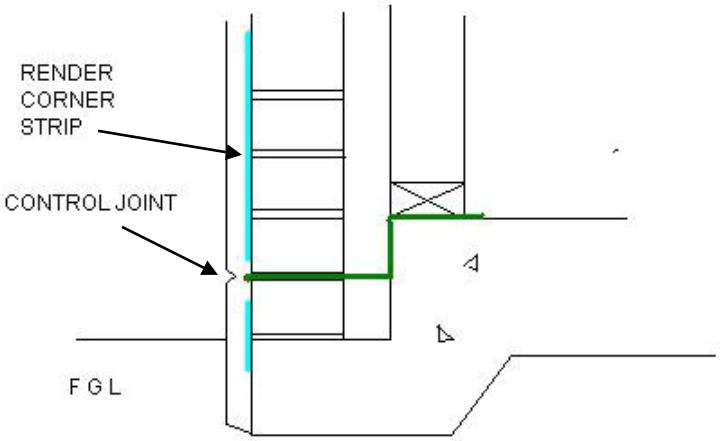

Termigreen™ Termite barrier Detail:
Multi rebate
Brickwork
Internal Frame
DPC
Termigreen™ Termite barrier
75mm
min
FGL

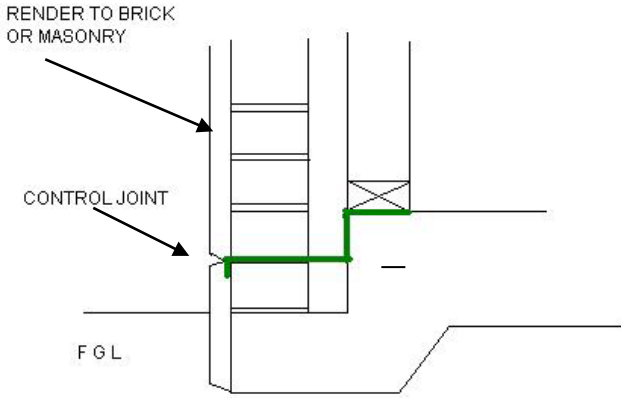
# PROTECTION OF RENDERED BRICK - MASONRY

The *Termigreen*™ Termite Barrier is installed beyond the brick face to allow for inclusion in the render product to be used. The render is not to cover the barrier by more than 2.0mm.

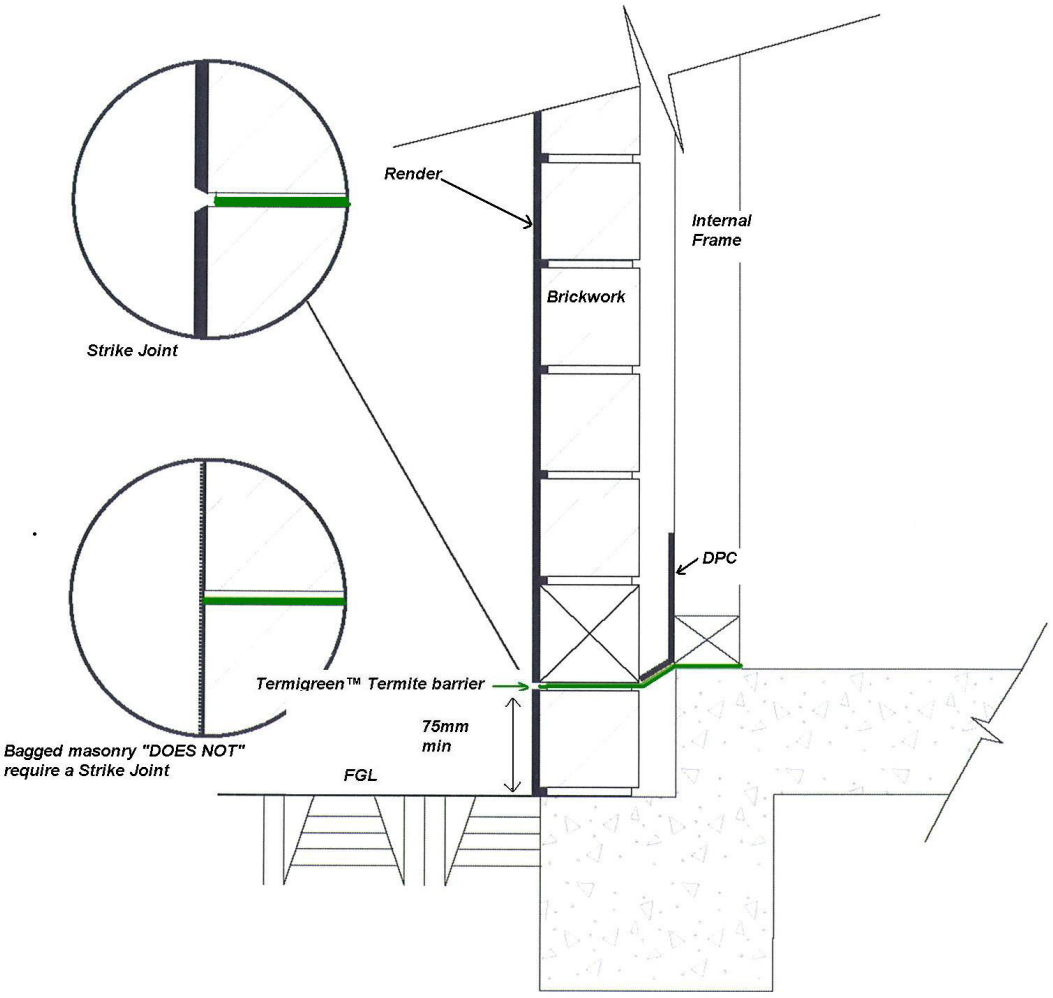
In cases where a thin coating is to be used, i.e. bagging or a skim coat, the barrier is to finish flush with the brick or masonry face.

When a PVC render corner strip is used by the builder, it needs to terminate 20 mm either side of the termite barrier.



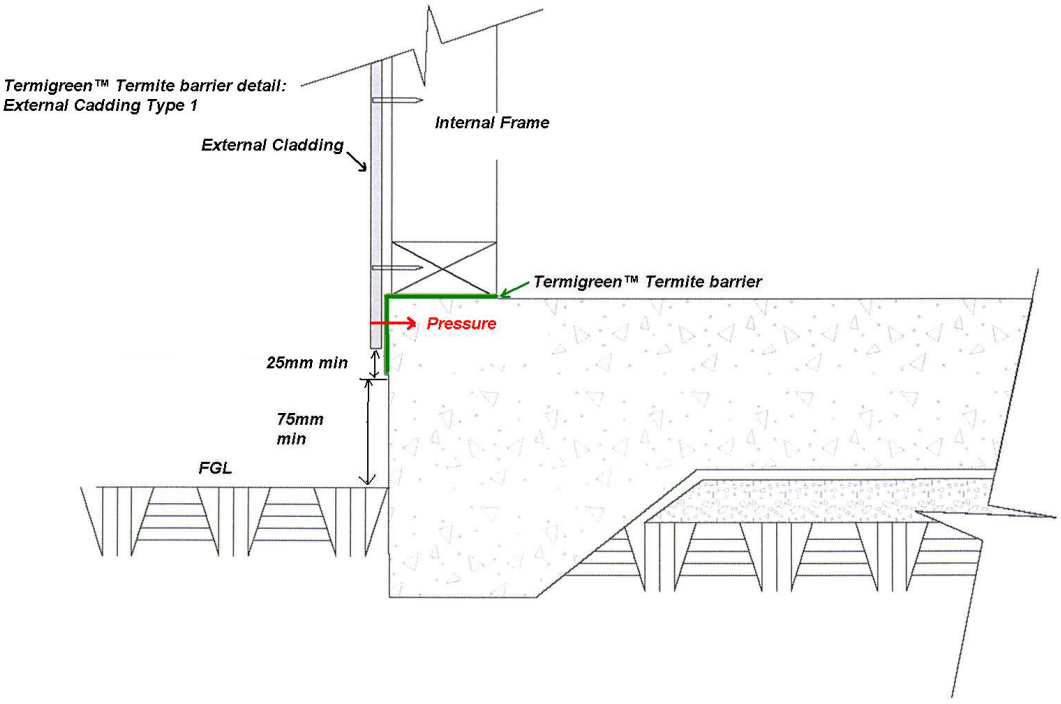



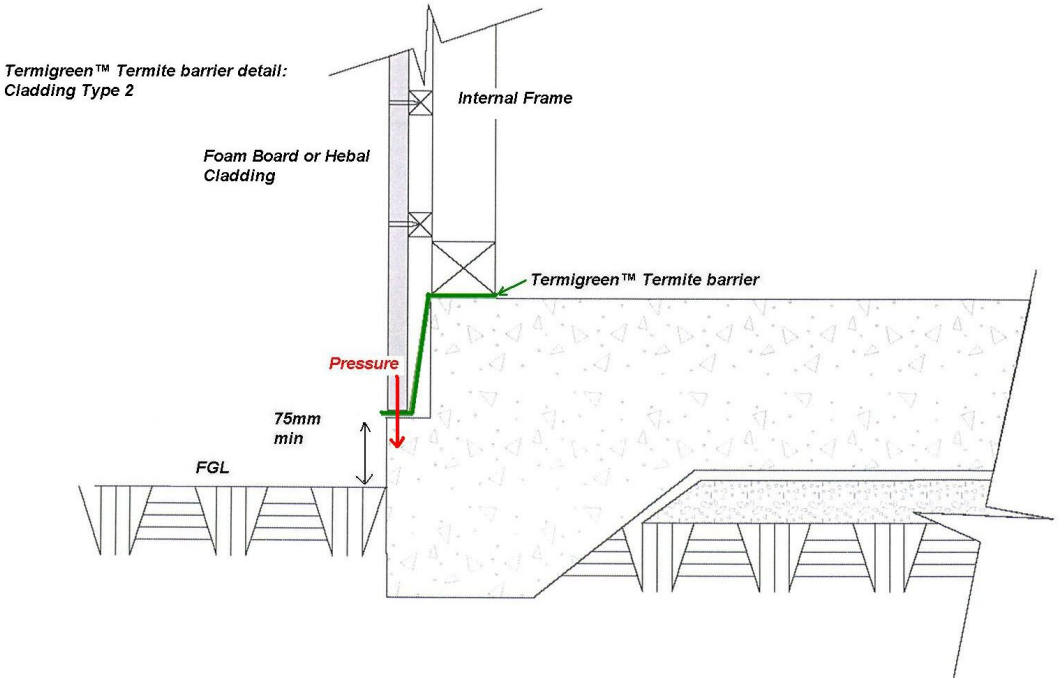
*Termigreen™ Termite barrier detail:*
*Render finish.*

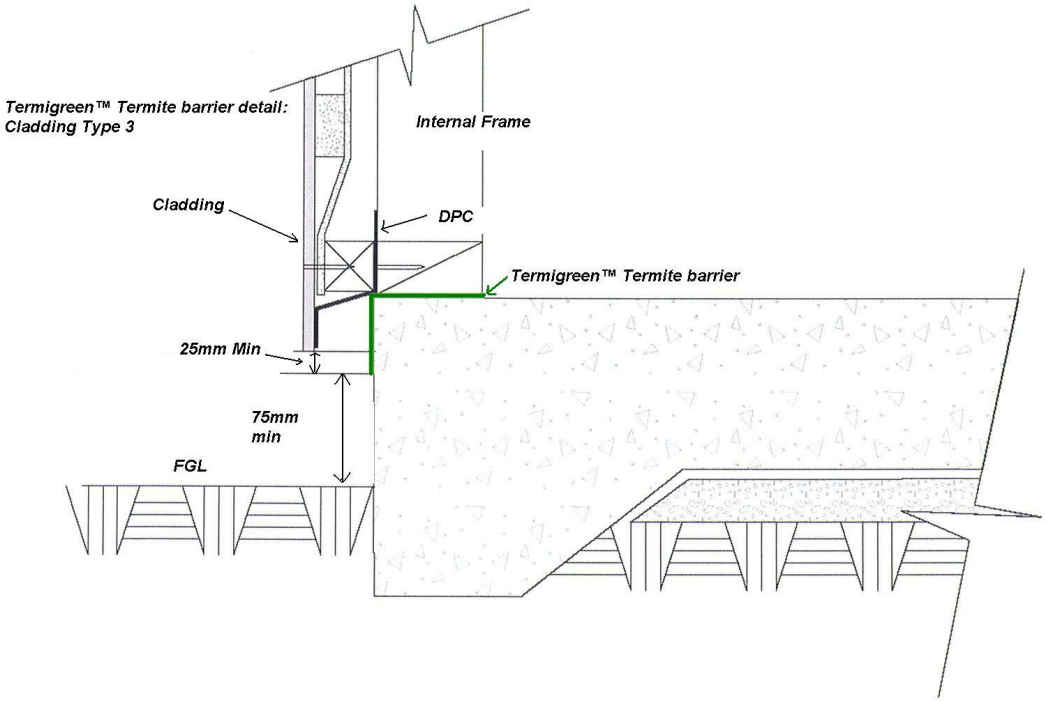



**Note:**
**Only Rendered Bricks or Blocks require a strike joint.**

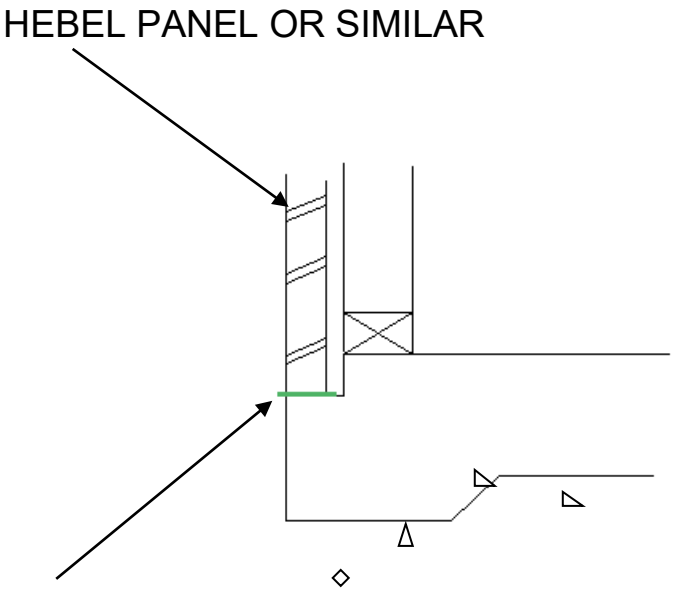
**Bagged Bricks or Blocks <u>do not</u> require a strike joint**


Termigreen™ Termite barrier detail:
External Cadding Type 1
Internal Frame
External Cladding
Termigreen™ Termite barrier
Pressure
25mm min
75mm
min
FGL


Termigreen™ Termite barrier detail:
Cladding Type 2
Internal Frame
Foam Board or Hebal
Cladding
Termigreen™ Termite barrier
Pressure
75mm
min
FGL

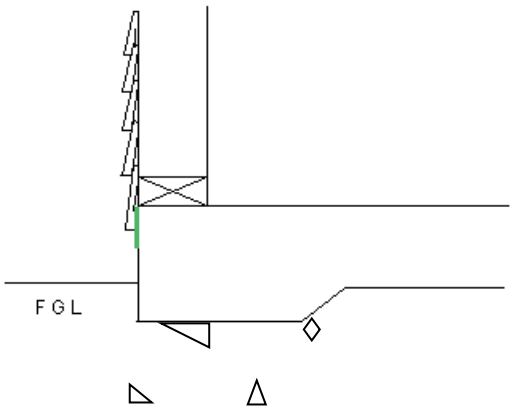



## ALTERNATIVE CLADDING SYSTEMS



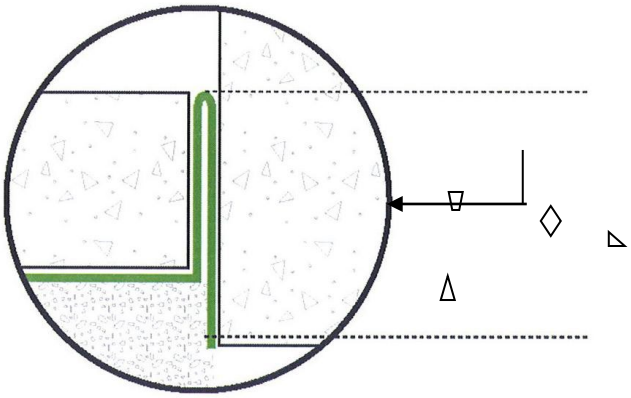

***Termigreen*™ TERMITE BARRIER INSTALLED TO SUIT PANEL FINISH e.g. RENDER/BAGGING/PAINT**

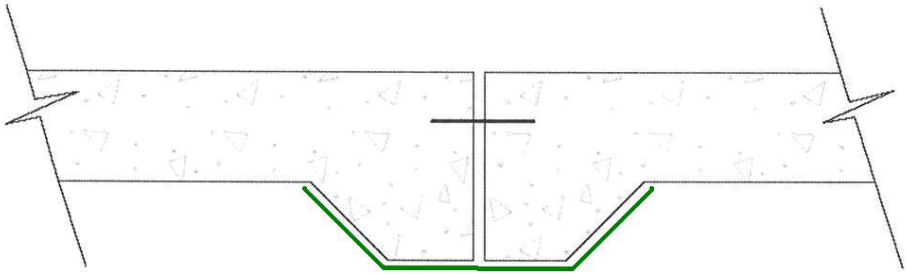
TIMBER CLADDING ON AN EXPOSED EDGE SLAB



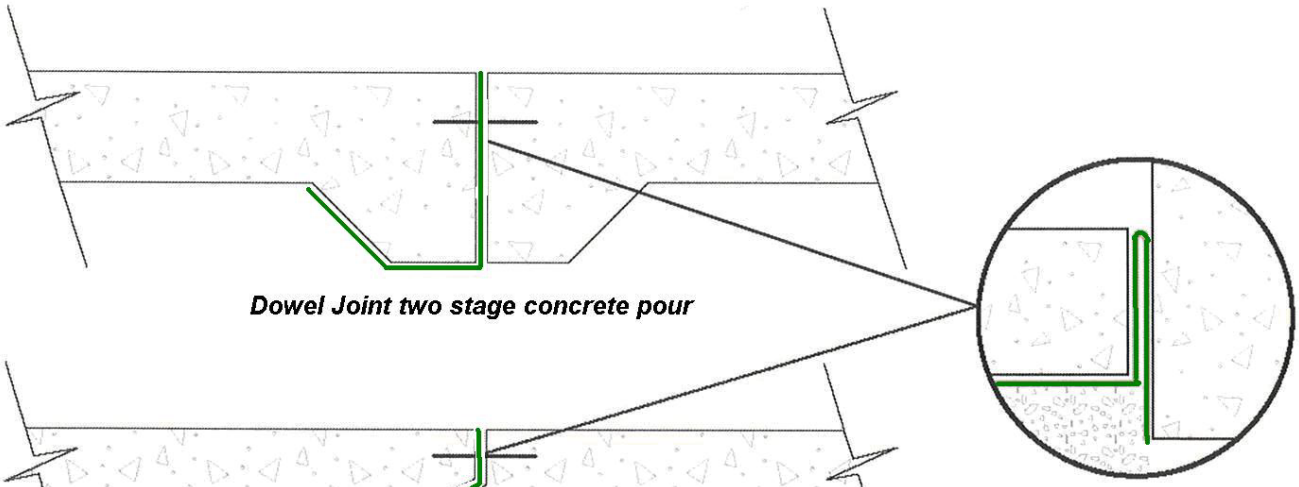

## Critical Joints

- Install a minimum 250mm wide strip of *Termigreen*™ termite barrier immediately under the construction joint by adhering it to the moisture membrane.
- Ensure that all joins are protected using the folded *Termigreen*™ Termite barrier.

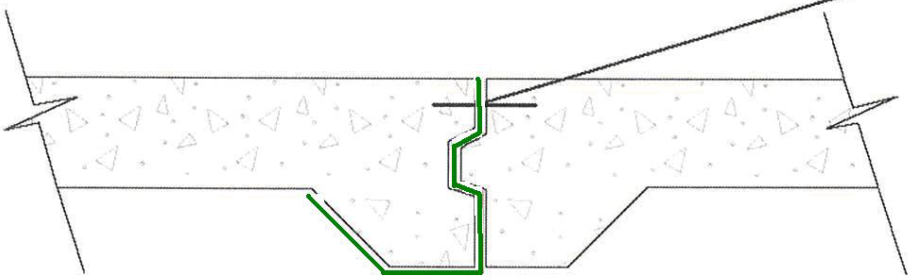




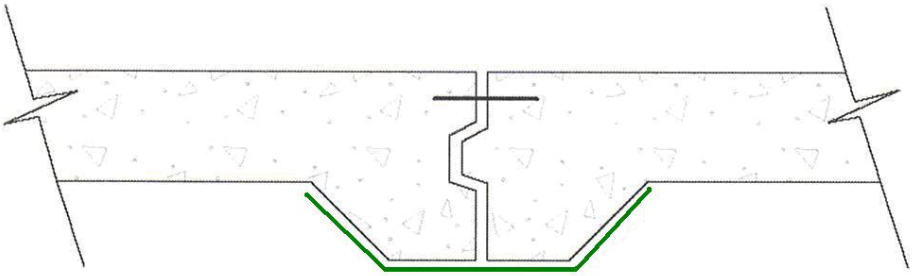
*Dowel Joint single stage concrete pour*



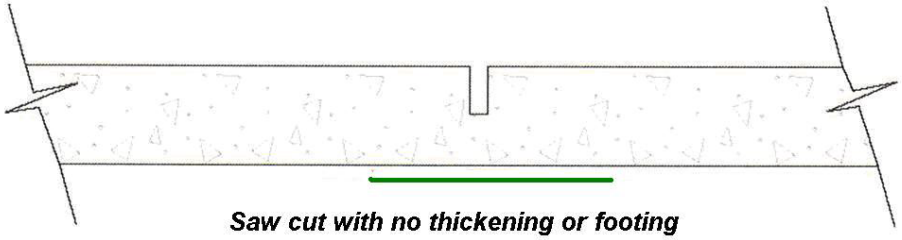
*Dowel Joint two stage concrete pour*



*Key Joint two stage pour*

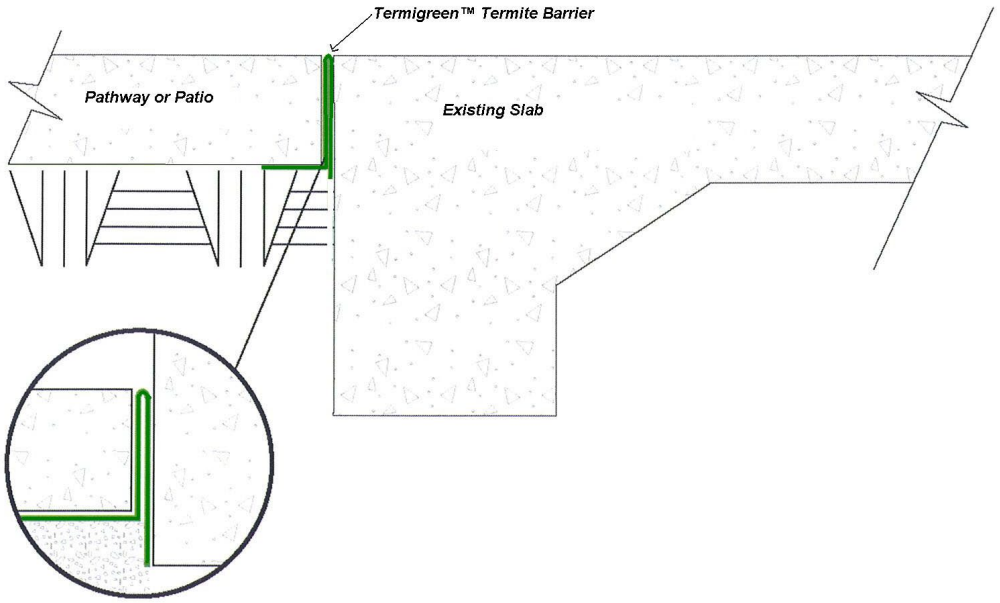


*Key Joint single stage concrete pour with thickening/ footing below key or connelly joint*

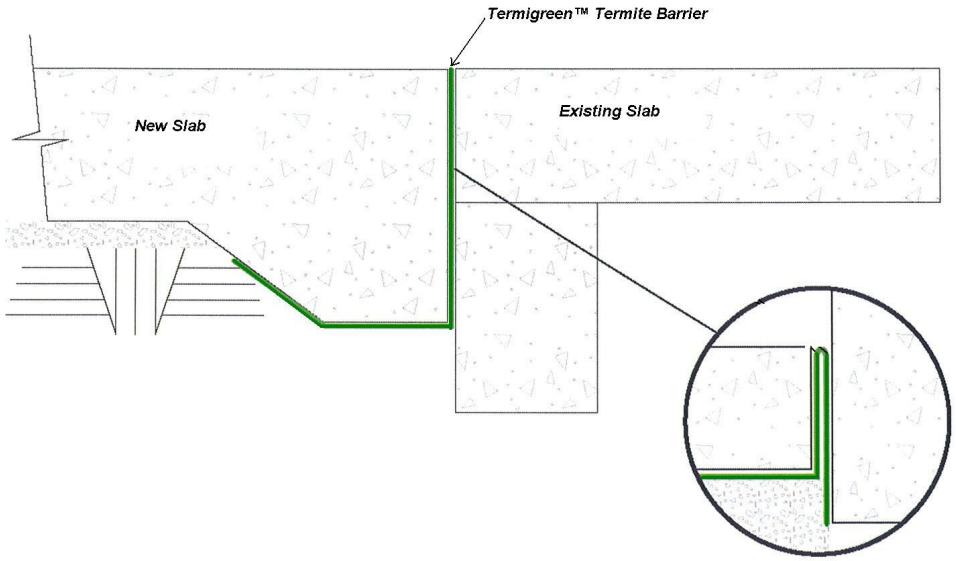


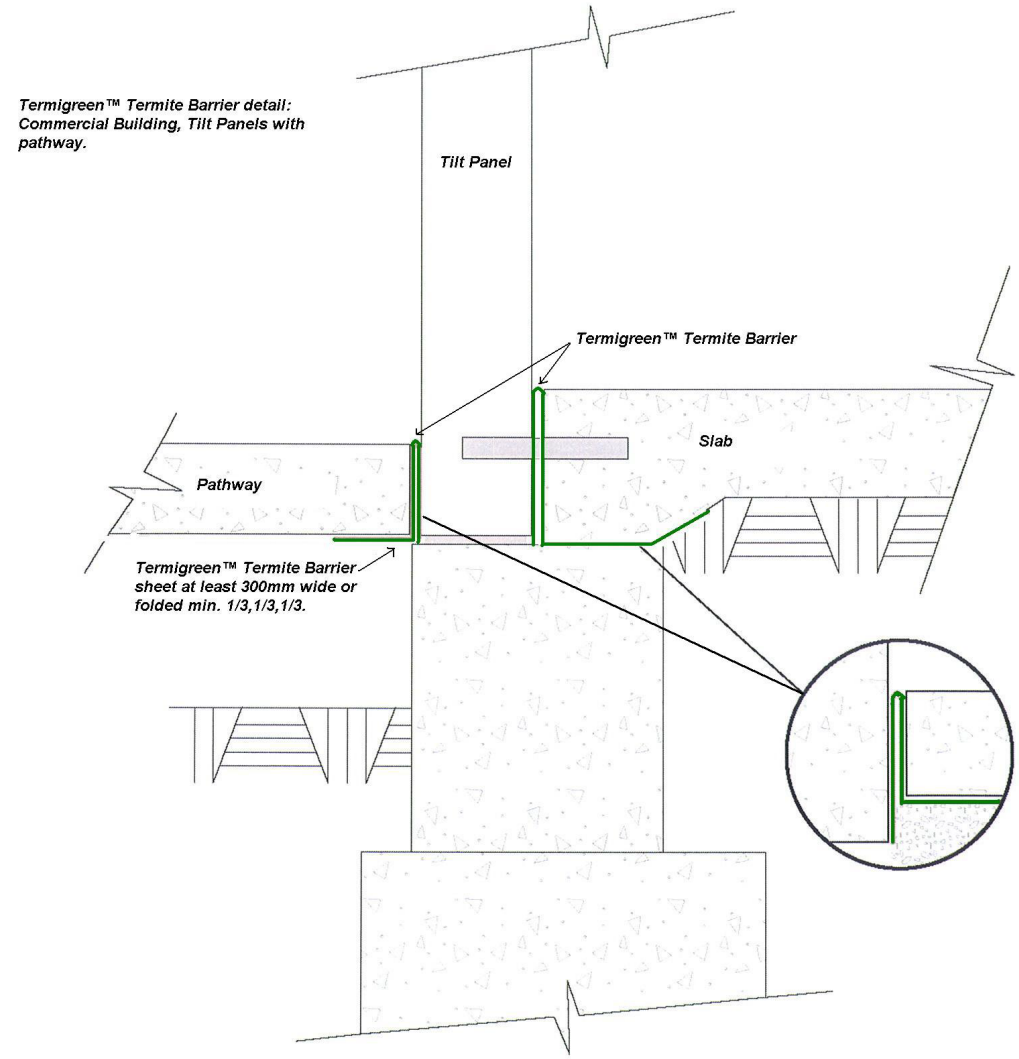
*Saw cut with no thickening or footing*

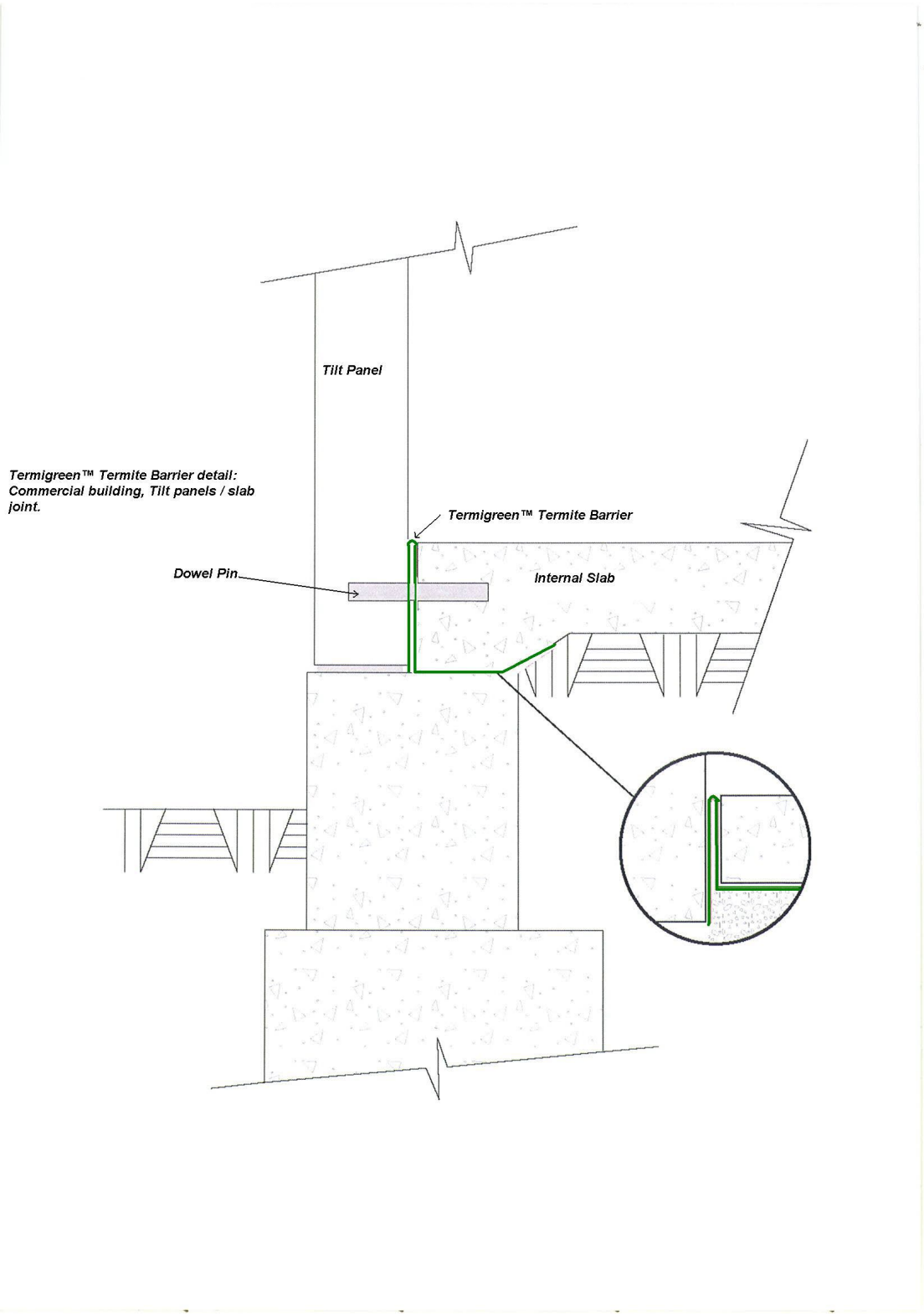
*Termigreen™ Termite Barrier detail:*
*Construction Joint- Pathway to Slab*



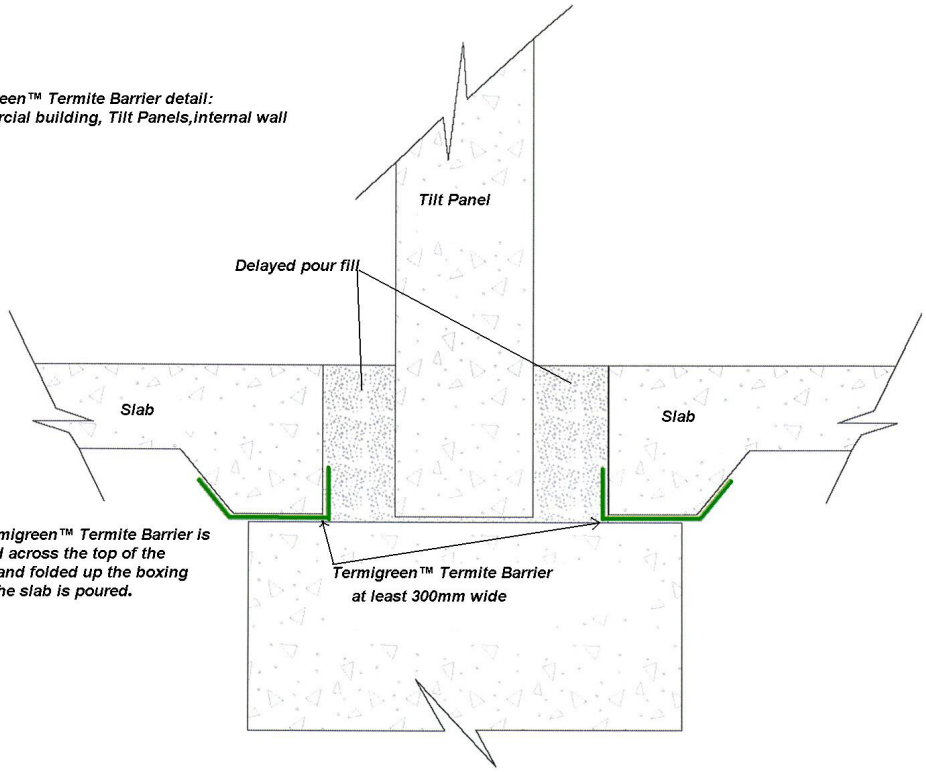

*Termigreen™ Termite Barrier detail:*
*Construction Joint New to Existing*




Termigreen™ Termite Barrier detail: Commercial Building, Tilt Panels with pathway.
Tilt Panel
Termigreen™ Termite Barrier
Slab
Pathway
Termigreen™ Termite Barrier sheet at least 300mm wide or folded min. 1/3,1/3,1/3.


Tilt Panel
Termigreen™ Termite Barrier detail: Commercial building, Tilt panels / slab joint.
Termigreen™ Termite Barrier
Dowel Pin
Internal Slab

*Termigreen™ Termite Barrier detail:*
*Commercial building, Tilt Panels,internal wall*




*The Termigreen™ Termite Barrier is installed across the top of the footing and folded up the boxing before the slab is poured.*

# SPECIFICATION
## For the
## *Termigreen*™ Termite Barrier Systems

Extent of Work:

Form a physical and chemical in non-soil matrix termite protection barrier that will deter the concealed entry of subterranean termites to all new building work.

Proprietary System:

***Termigreen*™ Termite Barrier Systems**

Supply and install a physical and chemical in non-soil matrix termite barrier by an accredited technician in accordance with the manufacturer's specification an Australian Standards 3660.1 of 2014 'Termite Management, Part1: New building work'.

Scope of Work:

**Termite Control**

Anti-termite physical and chemical in non-soil matrix termite barrier shall be installed to conform to AS3660.1 of 2014 'Termite Management, Part 1 : New building work'.

Service penetrations though the slab to be protected with a PVC collar fixed and installed to manufacturer's specifications.

Control or expansion joints in the slab to be protected with a polyester fabric (polymer) impregnated with a termite resistant compound barrier installed to manufacturer's specifications.

Perimeter cavity to be protected with a polyester fabric (polymer) impregnated with a termite resistant compound barrier installed to manufacturer's specifications.

All installations to be performed by technician accredited by Protectant Pest Management

# PENETRATION, CRITICAL CONSTRUCTION JOINTS AND PERIMETER TERMITE PROTECTION

## 1. TERMITE MANAGEMENT

All new work shall be protected from termite attack in accordance with the Australian Standard AS 3660.1 "Termite Management" Part 1: New building work.

Comply with typical details included in this specification as appropriate, at all footing slab edges, critical construction joints and slab penetrations.

## 2. Physical and Chemical in non-soil matrix fabric

Provide physical and chemical in non-soil matrix fabric protection in the following locations:

a) At all conduit pipe or other penetrations through the slab floor.
b) At all construction joints between slabs, or between non continuous pours.
c) At the perimeter, ensuring that the finished ground level is below the barrier.

*Installation:* in accordance with the manufacturer's specifications

*Proprietary Items:* *Termigreen™*

*Warranty:* 10 Years renewable with 12 monthly inspections on all structural
*(full details in warranty statement)*

## 3. Slab Protection

The concrete slab shall be considered as a termite barrier in the terms of Australian Standards AS 3660.1 – 2014 section 2.3.1. The following precautions shall be observed.

a) the slab shall be constructed in accordance with Australian Standards: AS 3600 Concrete structures and AS 2870 Residential slabs and footings- Construction.
b) Subsequent rendering and/or repair shall not be permitted without the consent of Termite barrier Installation Company.
c) No conduits, penetrations or pipes shall be installed after the pouring of the slab without prior notification to the Termite barrier installation company. Where such penetrations are unavoidable they shall be protected by retro-fitted termite resistant fabric compound collars and sealed to the top of slab using termite resistant adhesives.

## 4. Durable Notice

Provide clearly worded durable notice with will be fixed to the building externally (meter box) and internally (kitchen cupboard) stating:

a) type of termite management system
b) areas protected
c) maintenance/ retreatment requirements
d) Installer/manufacturer's contact details

# PENETRATION, CRITICAL CONSTRUCTION JOINTS AND PERIMETER TERMITE PROTECTION

## 1. GENERAL

### 1.1 CROSS REFERENCES

General

Refer to the *General Requirements* section:

- Demolition
- Site Preparation
- Earthworks
- Service Trenching
- In-situ Concrete

### 1.2 STANDARD

General

All new work shall be protected from termite attack in accordance with the Australian Standard AS 3660.1 “Termite Management” Part 1: New building work.

Comply with typical details included in this specification as appropriate, at all footing slab edges, critical construction joints and slab penetrations.

Install a combination of physical and chemical in non-soil matrix fabric and concrete slab barrier.

## 2. QUALITY

### 2.1 INSPECTION

**Witness points**

Give sufficient notice so that inspection may be made of the completed termite management system.

**Quality assurance**

Refer to the General Requirements.

# 3. MATERIALS AND COMPONENTS

## 3.1 Physical and Chemical in non-soil matrix fabric

Provide physical and chemical in non-soil matrix fabric protection in the following locations:

d) At all conduit pipe or other penetrations through the slab floor.
e) At all construction joints between slabs, or between non continuous pours.
f) At the perimeter, ensuring that the finished ground level is below the barrier.

***Installation:*** in accordance with the manufacturer's specifications

***Proprietary Items****:* *Termigreen™*

***Components:***
Polyester fabric (polymer) barrier impregnated with a termite resistant compound
PVC minimum 1.00mm with a D shore of better than 80
Termite resistant flexible paste adhesive
Termite resistant flexible paint adhesive

***Warranty:*** 10 Years renewable with 12 monthly inspections.
*(full details in warranty statement)*

**Slab Protection**

The concrete slab shall be considered as a termite barrier in the terms of Australian Standards AS 3660.1 – 2000 section 2.3.1. The following precautions shall be observed.

d) the slab shall be constructed in accordance with Australian Standards: AS 3600 Concrete structures and AS 2870 Residential slabs and footings- Construction.
e) Subsequent rendering and/or repair shall not be permitted without the consent of Termite barrier Installation Company.
f) No conduits, penetrations or pipes shall be installed after the pouring of the slab without prior notification to the Termite barrier installation company. Where such penetrations are unavoidable they shall be protected by retro-fitted termite resistant fabric compound collars and sealed to the top of slab using termite resistant adhesives.

**Durable Notice**

Provide clearly worded durable notice with will be fixed to the building externally (meter box) and internally (kitchen cupboard) stating:

e) type of termite management system
f) areas protected
g) maintenance/ retreatment requirements
h) Installer/manufacturer's contact details

# Who are we?

- Originally established in1995 by an established builder who pioneered the development of a unique physical termite barrier system

- Locally produced quality assured products

- Rapidly expanding nationwide with our barriers in more than 55,000 buildings

- Our research team work with the CSIRO, Department of Primary Industries and other NATA accredited laboratories in an ongoing program to develop new products

- A company that focuses on updating skills and training of all its employees and associates

Until a few years ago we went about our business quietly, focusing mostly on Southeast Queensland and Northern New South Wales in the confidence that when builders try our products they will continue to buy from us……

We now supply to many of Australia's leading builders across three states including: Nevertheless, our standards also apply to the individual builder with competitive pricing, quality products and personalised service. Having expanded to meet the needs of national builders allows us to offer you the same service.

**How do you and your clients benefit when you choose the *Termigreen*™ termite barrier system?**

- A barrier system supplied, installed and warranted by the one company and tailored to suit your individual requirements
- A range of systems that hold a CodeMark Certificate of Conformity.
- Quality, patented products with an outstanding durability.
- A support system that combines installers and technical management to ensure minimal disruption to your building schedule
- Backed by a full-service Pest Management Division.

**This gives you a unique barrier system without compromise**

## DURABILITY

## Note: *Termigreen*™ is part of the *Protectant*™ System under this assessment.

**Preamble**

Protectant Pest Management saw the practical benefit of testing durability and commissioned Chemskill to advise on a series of trials to demonstrate the durability of the Protect Ant Barrier Systems and its components. These tests are to ensure that the ProtectAnt material will be durable for the design life of the product of at least 50 years.

As part of the process of renewing CSIRO technical opinion 224 and 321, The White Ant Co Pty Ltd were advised by Ecospan Consulting Services Pty Ltd that there was no standard methodology in Australia for the assessment of durability of termite barriers and AS 3660.3-2000 Termite management Part 3: *Assessment criteria for termite management systems* did not contain methodology for testing or assessing durability and as AS 3660.1-2000 Termite management part 1: New building work specifically excludes durability form its scope.

This technical assessment will address whether or not the ProtectAnt substrate, and it's components, will remain durable for the life of the building (i.e., more than 50 years) when installed in accordance with the requirements of ProtectAnt™ Installation Manual and the "Statement of Compliance" ProtectAnt™ Physical Termite System, (EcoSpan Consulting Services Pty Ltd), July 2008 and CSIRO Technical Appraisal 224, June 2005, and CSIRO Technical Appraisal 321, June 2006. A physical barrier system to prevent concealed entry of subterranean termites into building when used with concrete slab on ground, cavity brickwork, brick veneer, concrete masonry, slab pipe penetrations, retaining walls suspended timber floors and construction joints. In the opinion of the "Statement of Compliance" White Ant Co/ProtectAnt™ Physical Termite System, (EcoSpan Consulting Services Pty Ltd) and CSIRO Appraisals, the system described in this Technical Assessment and installed under the conditions listed herein will satisfy the requirements of Australian Standard 3660.1-2000 'Termite management – New building work' as a suitable physical barrier against subterranean termite entry.

**Protectant™ Polymer Termite Barrier System.**

Protectant Pest Management's **Protectant™ Polymer Termite Barrier System** is comprised of the key element Protectant™ Polymer fabric and its components that in the opinion of the "Statement of Compliance" White Ant Co/ProtectAnt™ Physical Termite System, (EcoSpan Consulting Services Pty Ltd), July 2008 and CSIRO Technical Appraisal 321, June 2006, will satisfy the requirements of Australian Standard AS 3660.1 of 2000 Termite Management, Part 1: New building work, as a suitable physical barrier to deter concealed subterranean termite entry by use of a strip shielding made of impregnated geo textile fabric or PVC minimum 1.00mm with a minimum shore "D" hardness of 80. The perimeter barrier is placed to finish at the face of the external brickwork or of the applied finish material and sealed to the slab with Protectant Pest Management approved adhesives or adhesive coatings. The barrier is placed to finish not less than 75mm above finished ground level or not less than 25mm where concrete or similar materials abut the perimeter of the structure. Where it is not possible to achieve a minimum inspection zone of 25mm a secondary barrier must be installed.

The periphery and construction joint barrier of the Protectant™ system are fully bonded with an approved flexible adhesive (ADULETH) to the concrete slab and continuous to the outer face of the external finish of the building unless otherwise specified.

Protectant™ Polymer Termite Barrier System may be cast into a concrete slab prior to pouring.

Slab penetration flanges are bonded to the slab penetration pipe with ADULETH flexible adhesive and held in position on the pipe penetration if necessary (when placed into a thickening beam or similar) by means of a PVC molded collar or a disk of Protectant™ Polymer fabric held in place by the use of a cable tie or similar. The slab penetration flanges are placed at a minimum depth of 100mm below the finished slab height. In the case of a 100mm concrete slab construction the flange is placed mid-slab height. The slab penetration collars may be fitted prior to concrete pouring or retro-fitted.
Construction joints can be sheeted with Protectant™ Polymer fabric fixed to the existing face surface of one concrete slab by way of the use of ADULETH flexible adhesive and then molded into the poured abutting concrete. This forms a continuous barrier within the construction joint. This method of installation can be used with abutting slabs, connely key joints and drilled/sleeved dowel bar joints.
Retaining walls can be sheeted with Protectant™ Polymer fabric fixed to the face surface of retaining wall by way of the use of ADULETH flexible adhesive or the use of ADSOL adhesive paint.

- **Protectant™ Polymer fabric** is a specialised termite resistant geo textile fabric that is made from a polyester fabric (polymer) impregnated with a termite resistant compound. The coating of the geo textile fabric (polymer) is applied as a factory impregnated process.

- **Plastic Collar** are injection molded using Welvic® 61625 RED C0847 is a red coloured, impact-modified, tin-stabilised, unplasticised PVC compound. It is suitable for outdoors application as it contains a UV absorber and all other ingredients used are recommended for applications involving exposure to sunlight. The finished product has a Shore-D hardness of 82.

- **ADULETH** is a termite resistant flexible sealant. This product is manufactured under patent exclusively for Protectant Pest Management.
  This product contains Bifenthrin @ 8.8g/L

- **ADSOL** is a termite resistant paint on sealant. This product is manufactured under patent exclusively for Protectant Pest Management.

**Factors affecting the durability of the components of the Protectant™ and Protectant Pest Management termite barrier systems.**
**Hardness:**

- **Plastic Collar** is an injection molded single piece PVC using Welvic® 61625 RED C0847 is a red coloured, impact-modified, tin-stabilised, unplasticised PVC compound. It is suitable for outdoors application as it contains a UV absorber and all other ingredients used are recommended for applications involving exposure to sunlight. The finished product has a specific gravity of 1.383 and a Shore-D hardness of 82. In the opinion of Welvic Australia Pty Ltd that products mould from 61625 RED C0847 would have a life expectancy of in excess of 50 years.

- **ADULETH** is a termite resistant flexible sealant. This product is manufactured under patent exclusively for Protectant Pest Management. This product contains Bifenthrin @ 8.8g/L. ADULETH is a low modulus, one component, Class A polyurethane sealant. When cured it will form a tough, flexible seal capable of cyclic expansion and compression movement of 50% (+/-25%) of the original joint width. ADUELTH is unaffected by normal weathering conditions such as rain, sunlight, snow, ultra violet radiation, ozone, atmospheric contamination and pollution. Its excellent weatherability enables it to obtain its original properties would be expected to continue for the life of the building.