



**CHEMICAL FREE
ECO-FRIENDLY
TERMITE
SECURITY
SYSTEM
FOR ANY
BUILDING**



ARMOUR-THOR

**CHEMICAL FREE
& ECO-FRIENDLY**

TERMITE SECURITY SYSTEM

**INSTALLATION
MANUAL**

* Warranty is renewable each year for 50 years subject to a required annual inspection at your expense. See Warranty document for complete details.



A CHEMICAL FREE PHYSICAL BARRIER.....	3
GENERAL	3
WHAT IS ARMOUR-THOR	3
STATEMENT OF QUALITY.....	4
COMPLIANCE.....	4
WHY YOU SHOULD USE THE ARMOUR-THOR TERMITE SECURITY SYSTEM	5
ABOUT TERMITES	6
ARMOUR-THOR TERMITE SECURITY SYSTEM	7
INSTALLATION	8
BUILDER’S RESPONSIBILITY	8
BASIC INSTALLATION PROCESS	8
BASIC INSTALLATION PROCEDURES – PERIMETERS	9
SLAB EDGE REBATE - DETAIL	11
INSPECTION ZONES	15
STEP DOWNS	15
RENDERED WALLS.....	26
FACE BRICKWORK.....	27
CORNER DETAILS.....	28
JOINING THE ARMOUR-THOR TERMITE SECURITY SYSTEM ...	29
ACCESS RAMPS	33
EXISTING CONCRETE / NEW CONCRETE JOINTS	34
DOORS AND WINDOWS.....	39
SUSPENDED FLOORS	40
RETAINING WALLS.....	43
ARMOUR-THOR TERMITE SECURITY COLLARS.....	43
INSTALLATION	44
IN- SLAB FIXING	44
ON- SLAB FIXING	44
ELECTRICAL CONDUITS	45
HORIZONTAL PENETRATIONS	45
MULTIPLE PENETRATIONS	45
ESSENTIAL EQUIPMENT	49



A Chemical Free Physical Barrier

- **Tough** ARMOUR-THOR Termite Security System is exceptionally tough and will not be damaged by normal building work practices.
- **No Registration Requirements** with Pesticides Regulators.
- **Durable** for 50 years.
- **BCA Compliant.** ARMOUR-THOR Termite Security System complies with the relevant requirements of the Building Code of Australia.
- **Environmentally friendly.**
- **User-friendly,** flexible to install, and doesn't impinge on any other trades.
- **Suits all building designs.**
- **Moisture-proof sheet and composite materials.**
- **Manufacturer's Warranty** from a global company.

General

ARMOUR-THOR Termite Security System gives you long-term termite protection and can also provide you with a perimeter damp proof course (DPC).

ARMOUR-THOR Termite Security System has been fully researched and developed. It can be cut and moulded so it can suit any type of building design, no matter how complex. It is backed by the global resources of Ensysyex.

When correctly installed by an ARMOUR-THOR Authorised Operator, ARMOUR-THOR Termite Security System comes with a conditional 50 Year Termite Damage Warranty.

This Manual details many of the methods by which ARMOUR-THOR Termite Security System can be installed.

It is not exhaustive and other applications are approved to deal with more complex building designs.

What is ARMOUR-THOR

ARMOUR-THOR Termite Security System is made out of a unique grade of Ultra Marine Grade Aluminium, which is robust and able to withstand the harsh treatment. ARMOUR-THOR Termite Security System aluminium is a special Flex-Temper form which allows it to be moulded into any required shape.

ARMOUR-THOR Termite Security System is even suitable for Severe Marine Environments (within 1Km of a surf coast). It meets *Australian Standard 3700 Masonry Structures* durability ratings for built in metal components.

ARMOUR-THOR is supplied in 30m rolls in widths of 110mm, 165mm, 190mm, 230mm, 300mm, 350mm.

ARMOUR-THOR Termite Security System

- A continuous perimeter barrier in new construction for concrete slab where the slab is in accordance with *AS2870 Residential slabs and footings-construction* and *AS 3600 Concrete structures*.
- A continuous perimeter and internal wall barrier for bearer and joist construction and as an ant cap for brick piers.
- A cold-joint continuous barrier between existing structures and a new slab in accord with AS 3660 Termite Management.
- A continuous barrier in construction joints.
- As a damp proof course for residential and commercial buildings.

ARMOUR-THOR Termite Security Collars?

ARMOUR-THOR Termite Security Collars provide the premium solution for chemical free protection of pipe penetrations in new buildings.

ARMOUR-THOR Termite Security Collars have been manufactured in six pre-pressed sizes. In addition, Collars may be made to size by an Authorised Operator to suit irregular pipe sizes.

NOVITHOR Termite Proof Cementitious Parge

NOVITHOR Termite Proof Cementitious Parge is a ready-to-use pumpable, natural aggregate, general purpose grout which undergoes controlled expansion in the plastic state. It is a Class 'A' grout as defined by SAA MP20 – Part 3, 1977.

There are two components to NOVITHOR Termite Proof Cementitious Parge, NOVITHOR TPC Powder and NOVITHOR TPC Liquid. They are generally mixed at a rate of 4 parts NOVITHOR TPC Powder to one part NOVITHOR TPC Liquid. (For full application details refer to the NOVITHOR Pesticide Free Termite Protection System Manual.)

NOVITHOR Termite Proof Resin

NOVITHOR Termite Proof Resin is a termite proof liquid designed to create a physical termite barrier against the ingress of subterranean termites by being applied to brickwork or render. NOVITHOR Termite Proof Resin is used externally or internally and meets the requirements of Australian Standards AS 3660.1 2000 and AS 3660.3. (For full application details refer to the NOVITHOR Pesticide Free Termite Protection System Manual.)

NOVITHOR Termite Proof Flex-Gel

is a Neutral cure, 100% gel rubber sealant and glue based on silicone. It cures at room temperature to provide excellent resistance to termites, weathering, ultra violet radiation, vibration, moisture, ozone, temperature extremes, airborne pollutants, and many cleaning detergents and solvents. It is grey in colour and non-slumping.

Statement of Quality

The ARMOUR-THOR Termite Security System, has been designed to achieve a service life of 50 years during which period the ARMOUR-THOR Termite Security System, including its constituent components, is expected to maintain efficacy and function as a physical termite barrier in accordance with AS 3660.1.

The ARMOUR-THOR Termite Security System 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;

The components used in the manufacture of the ARMOUR-THOR Termite Security System have been selected for their intended purpose and are expected to operate in accordance with their specification for the duration of the design life of the ARMOUR-THOR Termite Security System.

Compliance

ARMOUR-THOR Termite Security System is approved as an alternative solution in accord with the Building Code of Australia (BCA). The approved Assessment Method is that independent scientific evidence has been produced to prove that ARMOUR-THOR Termite Security System meets the Performance Requirements and/or the Deemed-to-Satisfy Provisions of the Australian Standards *AS 3660 Series - Termite management*.

Evidence of this is contained within reports provided in **CSIRO Entomology, CSIRO Engineering, Agrisearch Reports** and through the Australian Building Codes Board **Codemark Accreditation**.

These evaluations included documentary evidence produced by CSIRO Entomology and CSIRO Engineering. These reports prove conclusively that ARMOUR-THOR Termite Security System may be used in accord with, and meets, the requirements of:

AS 3660.1 Termite Management - Part 1: New building work;

AS 3660.2 Termite Management - Part 2: Existing buildings;

AS 3660.3 Termite Management – Part 3: Assessment criteria for termite management systems;

AS 2904 – Damp Proof Course

AS 3700 Masonry Structures

AS 2870 Residential slabs and footings – Construction

AS 3600 Concrete structures

Independent trials, conducted in accordance with the requirements of the Australian Standard *AS 3660 Termite management Part 3 Assessment criteria for termite management systems*; and other tests show that ARMOUR-THOR Termite Security System will remain as an effective termite measure for 50 years or more.

ARMOUR-THOR Termite Security System meets the performance criteria of section 1 Clause 1.3, of *AS 3660 Termite management Part 1, New building work* in accordance to *AS 3660 Termite management Part 3 Assessment criteria for termite management systems*.

ARMOUR-THOR Termite Security System also meets the performance requirements P2.1 & P2.1.1 as an alternate solution under BCA 2010, Part 3.1.3: Termite Risk Management (Queensland Variation) and National Construction Code (NCC).

Why You Should Use the ARMOUR-THOR Termite Security System

Consistency

ARMOUR-THOR Termite Security System is an engineered solution, manufactured to strict Codemark quality guidelines.

Authorised Operators

ARMOUR-THOR Termite Security System is only installed by Authorised Operators who have been trained and licensed by Ensystem. Correct installation, in accordance with the Ensystem Standards is a condition of the Termite Damage Warranty available with all ARMOUR-THOR Termite Security System installations.

ARMOUR-THOR Quality Review System

The ARMOUR-THOR Termite Security System Quality Review System includes the collection of data by all Authorised Operators. This assures you of compliance and security for all your installations.

Flexible

ARMOUR-THOR Termite Security System is a flexible system that may be installed in many difficult and complicated situations including multiple penetrations, step downs, etc. ARMOUR-THOR Termite Security System can even be moulded around unusual building designs and is easily cut and joined.

Tough

ARMOUR-THOR Termite Security System is exceptionally tough. Tin snips are required to cut the ARMOUR-THOR. Blunt objects, workmen's boots, etc. have little chance of penetrating. If a hole is produced it is easily repaired.

Long Lasting

ARMOUR-THOR System will remain in place protecting your property for its economic life without the need to repeatedly 'pump-it-up' with additional chemical.

Environmentally Sound

Since ARMOUR-THOR Termite Security System is a totally chemical free physical termite barrier it does not suffer from environmental degradation.

Australian Designed

ARMOUR-THOR Termite Security System was designed in Australia to suit the toughest conditions and protect against global termite species.

About Termites

No property in mainland Australia is safe from termites. Termites are the cause of the greatest economic losses of timber in service in Australia. Independent data compiled by State Forests indicates that 1 in every 5 Australian homes is attacked by termites at some stage in its life. Australia's subterranean termite species (white ants) are the most destructive timber pests in the world. In fact it can take "as little as 3 months for a termite colony to severely damage the timber in a home".

How Termites Attack Homes. The most destructive species live in large underground nests containing more than a million timber destroying insects. The problem arises when a nest matures near a home. Homes tend to provide natural shelter and food for the termites. The gallery system of a single colony may exploit food sources over as much as one hectare, with individual galleries extending up to 75 metres to enter homes, where there is a smorgasbord of timber to feast upon. Even concrete slabs do not act as a barrier; termites can penetrate through cracks in the slab to gain access. They also build mud tubes around the slab to gain access to above ground timbers.

Termite Damage. Once in contact with timber, termites excavate it, often leaving only a thin veneer on the outside. If left undiscovered, the economically important species can cause many thousands of dollars damage and cost two to five thousand dollars (or more) to treat.

Subterranean Termite Ecology. Termites are social insects usually living in large underground nests. Nests may be in trees or in rare instances they may be in above ground areas within the property. They tunnel underground to enter the building and then remain hidden within the timber making it difficult to locate their presence. Where timbers are concealed, as in most modern homes, it makes it more difficult to locate their presence. Especially if gardens have been built up around the home and termite barriers are either not in place or poorly maintained.

There are about 3,000 species of termites found in the world with about 300 species native to Australia. All termites eat some form of plant cellulose. Most termites simply eat humus in the soil, or grass and leaves. Very few eat wood, and only a small number of these eat sound wood (i.e. wood that has not been decayed by fungus). Some 20 or more species cause serious economic loss to Australian homes.

Termite Biology. Termites or "white ants" are social insects that work and live together in groups called colonies. Each colony contains several castes which differ in body shape, behaviour and tasks performed.



The **king and queen** mate and control the entire colony. In most species that causes economic loss to Australian homes, the queen becomes physogastric. This means she has a grossly enlarged abdomen for the purpose of laying millions of eggs. She essentially becomes an egg laying machine. These eggs hatch into the nymphal stage and through a series of moults develop into one of the adult castes.

The **worker** caste has the largest number of individuals within the colony and is responsible for building the nest, tending eggs and young termites, gathering food and feeding those castes that are unable to feed themselves. Worker termites are wingless, blind and do not reproduce. Workers perform almost all the tasks in the colony except for defence and reproduction.

The **soldier** caste can be distinguished from other castes by the head. The head of the soldier caste is large, dark and has either mandibles or a 'nasute' (pointed) protuberance. Soldier termites defend the colony against predators such as ants and are also unable to reproduce.



The **winged reproductive** caste are the potential future kings and queens of new colonies. This caste has eyes and wings, and usually leaves the parent colony in large swarms. They do not fly very far before shedding their wings.

ARMOUR-THOR Termite Security System

ARMOUR-THOR Termite Security System is a flexible termite protection system which can be used as part of a complete termite barrier in association with other approved systems.

It is particularly used with a concrete slab, poured and cured in accord with the requirements of AS 2870: *Residential slabs and footings - Construction* and AS 3600: *Concrete structures*.

The slab in this case forms part of the termite barrier with ARMOUR-THOR Termite Security System protecting the high risk termite penetration areas. It is applied in a range of widths (strips) to suit the particular building design.

It is also used for bearer and joist constructions and piers.

Health and Safety

ARMOUR-THOR Termite Security System poses no risk to the homeowner, construction workers or the environment. It is ideal for use in sensitive environments and in allergy-free housing.

Termite Protection Warranty

Ensystem provides a 50 Year Termite Damage Warranty to the homeowner/property owner which protects the builder and the homeowner following an approved installation. The ARMOUR-THOR Termite Security System Warranty covers replacement of both structural and internal (decorative) timbers. Conditions apply and you should read the separate Warranty documentation for full details.

Annual Inspections

All termite management systems require at least an annual inspection by a professional timber pest inspector in accord with the requirements of the Australian Standard Series *AS 3660 Termite management*. These inspections are integral to good termite management. They are also a condition of the ARMOUR-THOR Termite Damage Warranty.

Authorised Operators

ARMOUR-THOR Termite Security System may only be installed by ARMOUR-THOR Authorised Operators who have been trained and Quality Guaranteed by Ensystem to ensure that installations are done correctly and that systems comply with Ensystem Guidelines.

ARMOUR-THOR Termite Security System Authorised Operators must demonstrate their understanding of, and compliance with, the procedures and requirements of this Installation Manual. Any breach of, or deviation from, the required procedures may result in the termination of their Authorisation. Only appropriately trained and licensed professionals can qualify as ARMOUR-THOR Termite Security Authorised Operators. The ARMOUR-THOR Termite Security System Authorised Operator must nominate trained installers who will be operating under their Licence.

Licenses may be cancelled and supply stopped to any company that acts fraudulently or demonstrates consistently poor quality workmanship.

Installation

It is the responsibility of the ARMOUR-THOR Termite Security System Authorised Operator to liaise with the Builder and ensure that the installation procedures are correctly performed to comply with the Ensystem Warranty Program.

Builder's Responsibility

The builder must ensure that:

1. The under-slab soil substrate is levelled.
2. All service pipe penetrations are installed in their final position.
3. They are aware of the placement requirements for ARMOUR-THOR Termite Security System.
4. Once installed, ARMOUR-THOR Termite Security System must not be moved without consulting with the ARMOUR-THOR Termite Security System Authorised Operator.
5. They inform the ARMOUR-THOR Termite Security System Authorised Operator of any damage to, disturbance of, or misalignment of the ARMOUR-THOR Termite Security System prior to the pouring of the concrete slab.

Basic Installation Process

1. Ensure that the site has been levelled and all pipe penetrations are installed in their final positions.
2. If the tops of the service pipes to be protected are sealed with tape, the tape must be removed prior to installing Collars, and then replaced on completion.
3. ARMOUR-THOR Termite Security System is installed in accord with the diagrams in this Manual and as per the normal requirements for the damp proof course. Take great care to ensure that the barrier formed by ARMOUR-THOR Termite Security System is complete and continuous.
4. Care should be taken to ensure that the system is not affected by formwork pegs.
5. Refer also to the Australian Standard AS 3660 Termite management Part 1: New building work.
6. Give the Builder a copy of this Installation Manual and advise him of his obligations.

When installed in accordance with this Manual, ARMOUR-THOR Termite Security System should provide protection against the entry of subterranean termites provided all other aspects of the total system are approved and correctly installed.

An essential aspect of installation is to recognise that it will be the structural elements that are placed after the ARMOUR-THOR Termite Security System barrier that hold the barrier in place. Before installing ARMOUR-THOR Termite Security System always clean off all excess mortar from areas that the ARMOUR-THOR Termite Security System will be placed over.

When joining ARMOUR-THOR Termite Security System Strips overlap by 30mm and seal with Termite Proof Flex-Gel.

Limitations

Where the concrete slab is to form part of the termite barrier, it must be constructed in accordance with AS 2870 and AS 3600.

This Manual is not a comprehensive directory of all possible installations.

ARMOUR-THOR Termite Security System can be adapted for use in a wide range of complex building designs.

Basic Installation Procedures – Perimeters

Identify which ARMOUR-THOR roll widths are required. Note you may require a number of different roll widths on a single job site.

Ensure you have all your tools of trade at hand to do the job required.

Ensure the bricklayer has laid the appropriate courses of brickwork before installing the ARMOUR-THOR Termite Security System. For slab-on-ground the brick courses must be laid to a height so as to allow the installation of the ARMOUR-THOR Termite Security System to be attached to the concrete slab and extend through the outer perimeter brickwork with the finished ground level a minimum of 75mm below the outer edge of the ARMOUR-THOR.

The barrier may be folded and stepped to follow the brickwork at the change of levels in the building. For bearer and joist installation the ARMOUR-THOR Termite Security System should be positioned at the top of the engaged piers and extend through to the outer brickwork, the barrier should protrude 55mm past the inner skin of the brickwork and be folded down at a 45 degree angle.

Measure the straight lengths of barrier you will require and take note of the INTERNAL and EXTERNAL corners as well as any STEP DOWNS in the slab.

Make any components that require specialised cutting, first, then in between will be your straight or normal lengths of the ARMOUR-THOR Termite Security System.

When using with brickwork, place the taped edge of the ARMOUR-THOR aluminium against the edge of the concrete rebate, with the body of the material laying across the positioned brickwork, then fold the aluminium over the edge of the brickwork to the width of the brick coursing and the cavity.

Roll the aluminium over so the untapped folded edge (approximately 40mm) is now against the vertical rebate in the concrete slab, this is the area of the aluminium which is to be nailed to the concrete and made ready for attaching to the concrete slab with Termite Proof Flex-Gel. Expose 2-3mm of the taped aluminium at the brick edge so it acts as a DPC (damp proof course).

NB A taped edge is only required for face brickwork installs.

Once you have laid out all relevant lengths of the ARMOUR-THOR and placed it into position with the corners and step-downs you are then ready to use the Termite Proof Flex-Gel.

Fasten the ARMOUR-THOR to the vertical step down in the concrete slab with either a Trackmaster Nail Gun or mickey pins, the fastening pins should be positioned approximately 20mm down from the top of the vertical edge of the barrier and approximately 400mm apart.

Fold out 10mm of the top edge of ARMOUR-THOR to a 45° angle to form a V between the top of the barrier and the concrete. Once the V has been formed, apply the Termite Proof Silicon into the V, ensuring there is a complete seal between the concrete slab and the ARMOUR-THOR. Remove plastic caps from the Trackmaster fastening pins and cover all nail heads with Termite Proof Flex-Gel.

Once all the Termite Proof Flex-Gel has been applied, check for any areas or joins that may require extra attention over and above the normal installation. Always ensure there are never any areas (gaps) overlooked for possible ingress of termites.

Ensure that the Termite Proof Flex-Gel has sealed all gaps.

All joins, cuts, folds and overlaps in the ARMOUR-THOR require a minimum overlap of 30mm and should always be 100% sealed. It should be NOTED that for ALL joins and overlaps that are to be glued together, the polypropylene protective tape, if present, MUST be removed from the ARMOUR-THOR at the area of join.

To remove the protective tape from the ARMOUR-THOR, use a Stanley knife to cut the tape for the required distance of the overlap. To help remove the tape a heat gun or butane torch may be used to gently heat the tape. This will soften the glue and allow for easier removal of the tape.

Never overlook risk areas - It is your reputation and business at stake!

Depending at what stage the concreter or builder is at with the slab or footings, it is vital that you confer with those trades.

It is also paramount that the ARMOUR-THOR Termite Security System is installed at a dry site. DO NOT INSTALL IN THE RAIN. Most other trades do not work in the rain, so ensure you have dry conditions or as dry as possible.

Ensystemx also recommends that, the barrier is installed on top of the first course of bricks which is at a minimum 75mm above finished ground level, and is able to be attached to the concrete slab.

Another important aspect is to ensure that the ARMOUR-THOR Termite Security System falls 2-3mm past the outside edge of the brick/block courses. This will ensure the ARMOUR-THOR Termite Security System is performing its function as a DPC and a physical termite barrier.

Once you have laid the barrier on top of the first course of bricks, you can proceed to cover the cavity and bend the remainder of the ARMOUR-THOR Termite Security System upwards, vertically at its junction with the concrete substrate, which is the area where it is to be glued and fixed, thus sealing off any possible ingress of termites. (*Refer to illustrations for installation procedure.*) **Ensure the barrier is installed a minimum of 75mm above finished ground levels.**

Prior to completion, remove any off-cuts and note if you will be required to make further site visits; e.g. to install across driveways, wheel chair access, patios, columns, etc.

The meter box sticker is placed once installation is complete.

Slab Edge Rebate - Detail

One Brick Rebate

Secure the ARMOUR-THOR to the slab with clout nails or Trackmaster nails. Extend the ARMOUR-THOR Termite Security System strip to the slab edge and leave flush with the first brick or step down. Make sure the ARMOUR-THOR Termite Security System extends to the slab edge. The damp-proof course if required is laid above the ARMOUR-THOR Termite Security System at the weep hole.

Where the installation may be compromised by a build-up of soil to the weep hole level, or rendering of the bricks, it is recommended that a pavement / mowing strip is installed with the ARMOUR-THOR Security System attached to the concrete footing and cast into the mowing strip, see *Figure 1* and *Figure 2*

ARMOUR-THOR TERMITE SECURITY SYSTEM PROTECTING A ONE BRICK REBATE

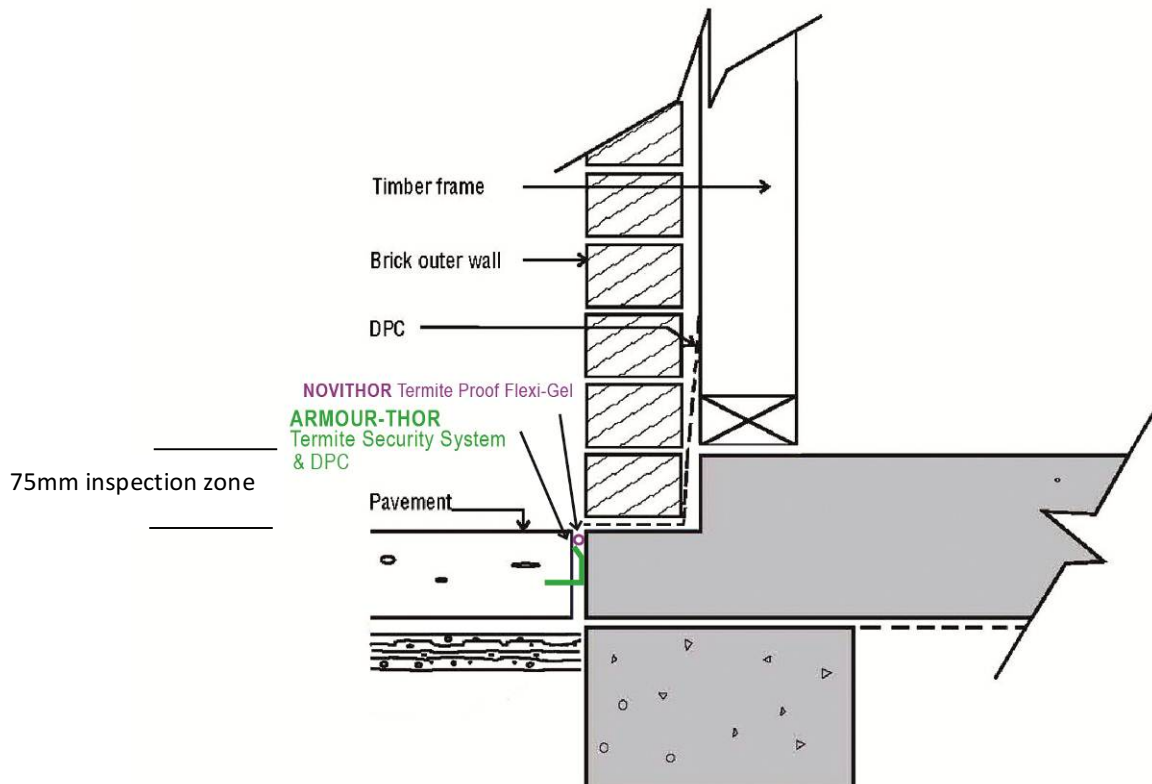


Figure 1

ARMOUR-THOR TERMITE SECURITY SYSTEM PROTECTING A ONE BRICK REBATE

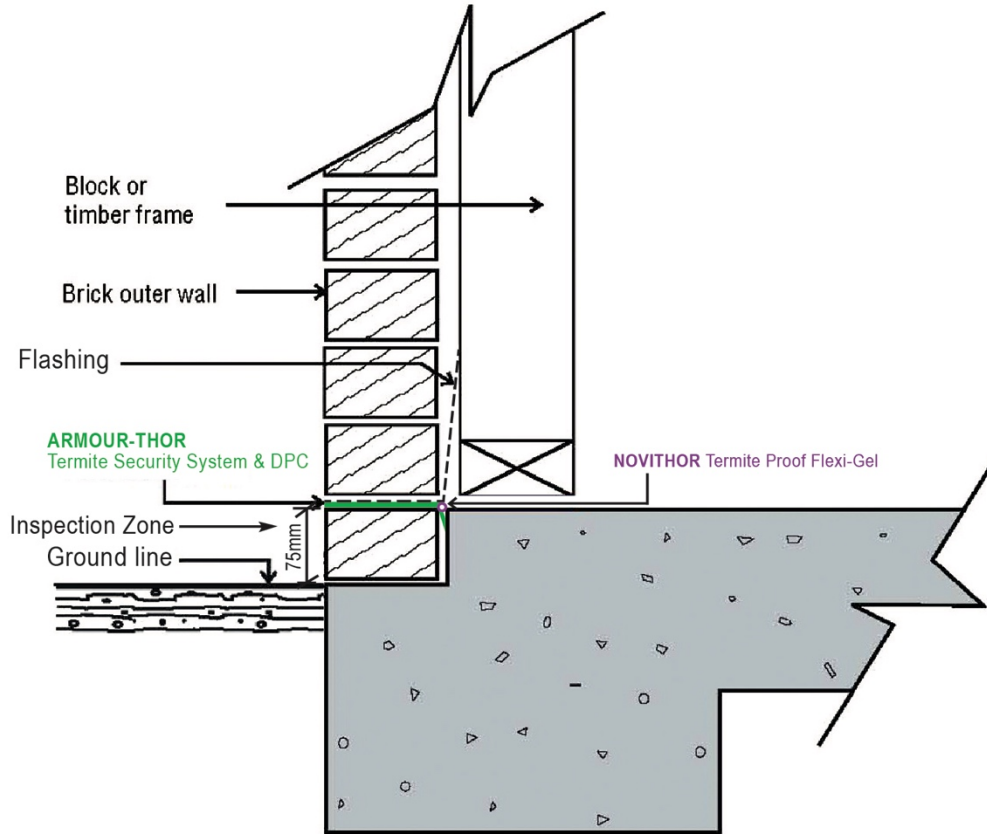


Figure 2

Important

When joining the ARMOUR-THOR Termite Security System Strips, a *minimum* 30mm overlap should be allowed for. This applies equally to joins along a wall, at a corner or where a repair patch is required.

Always ensure ARMOUR-THOR Termite Security System will be laid above the proposed level of any future landscaping etc., and prior to the laying of concrete mowing strips and pavements if the latter are required or planned.

Where external walls are face brick and the mortar is pointed, the ARMOUR-THOR Termite Security System strip is laid 3-5mm off the edge of the brick.

Two Brick Rebate

The perimeter strip of ARMOUR-THOR Termite Security System is secured to the side of the slab after the concrete is cured with concrete nails at 350 - 400mm intervals.

Extend the ARMOUR-THOR Termite Security System strip to the slab edge and nail to the slab edge. Leave the leading edge 2-3mm past the first brick or step down. See **Figure 3** and **Figure 4**

ARMOUR-THOR TERMITE SECURITY SYSTEM PROTECTING A TWO BRICK REBATE

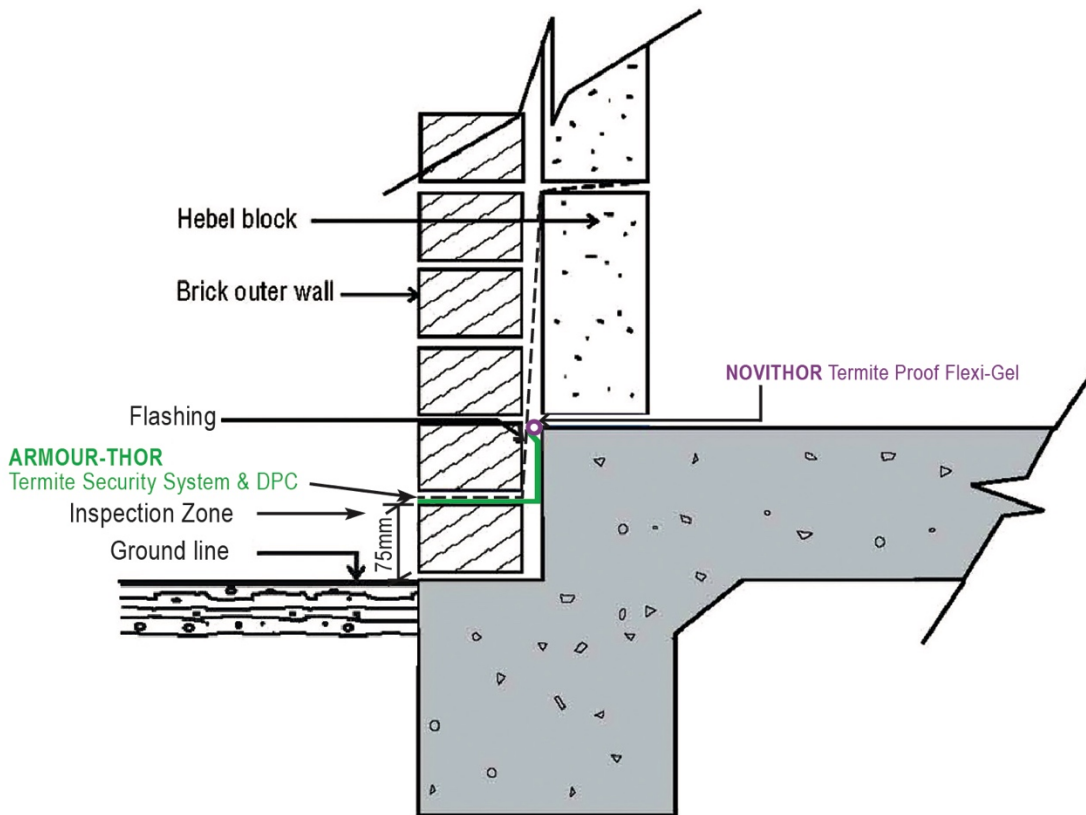


Figure 3

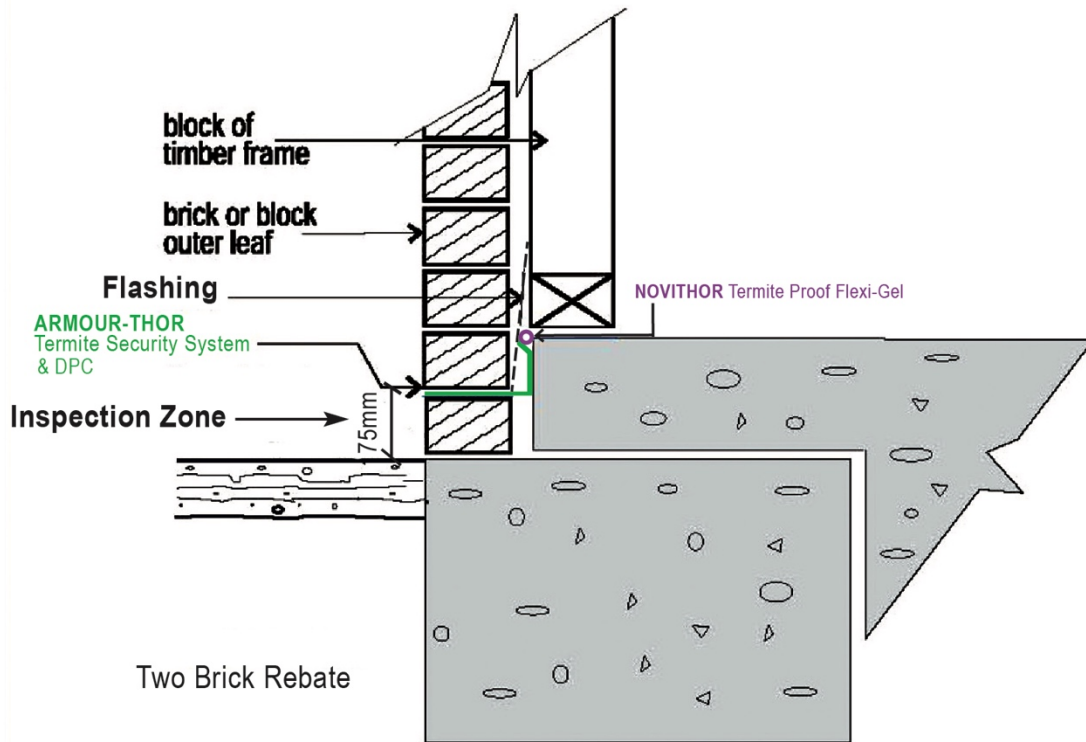


Figure 4 Two brick rebate

Inspection Zones

The Australian Standard AS 3660.1 Termite management – New building work, requires a 75mm inspection zone between the exposed edge of a termite barrier system in the outer wall of a building and the grade level beneath.

The purpose of this inspection zone is to ensure that sufficient un-occluded surface exists to allow easy identification of termite mud-tubes up the outer wall structure during a termite inspection. It was decided at the time by the Standards Committee that a distance of 75mm (the depth of one standard building brick) would allow for changing grade levels due to gardening activities in adjacent soil, the depth of growing grass and so on, while still leaving sufficient un-occluded surface to allow for efficient inspection.

Where the grade is unchanged and fixed against the wall such as in the case of concrete or paved pathways, patios and driveways, this inspection may be reduced. This is particularly important where step-downs in doorways and windows occur.

With installations of ARMOUR-THOR Termite Security System, where hard surfaces such as concrete or paving exist, **a minimum of 25mm should exist between the outer exposed edge of the termite barrier system and the top surface of the concrete or paving.**

This distance is proven adequate to allow for identification of subterranean termite mud tubes by those trained to do so, or by observant property owners.



Figure 5 ARMOUR-THOR positioned between weep hole and first course of brickwork (creating 75mm inspection zone)

Step Downs

Before installing ARMOUR-THOR Termite Security System you need to clean off any excess mortar from the top layer of bricks and the vertical face of the internal brickwork. This better allows for the ARMOUR-THOR Termite Security System to be applied to the edge of the concrete slab and the bricks.



Figure 6 NOVITHOR Cementitious Parge minimum 4mm thick applied over brick work in step down area between upper and lower concrete slabs

2
3
0
m
m
3
0
0
m
m
3
5
0
m
m

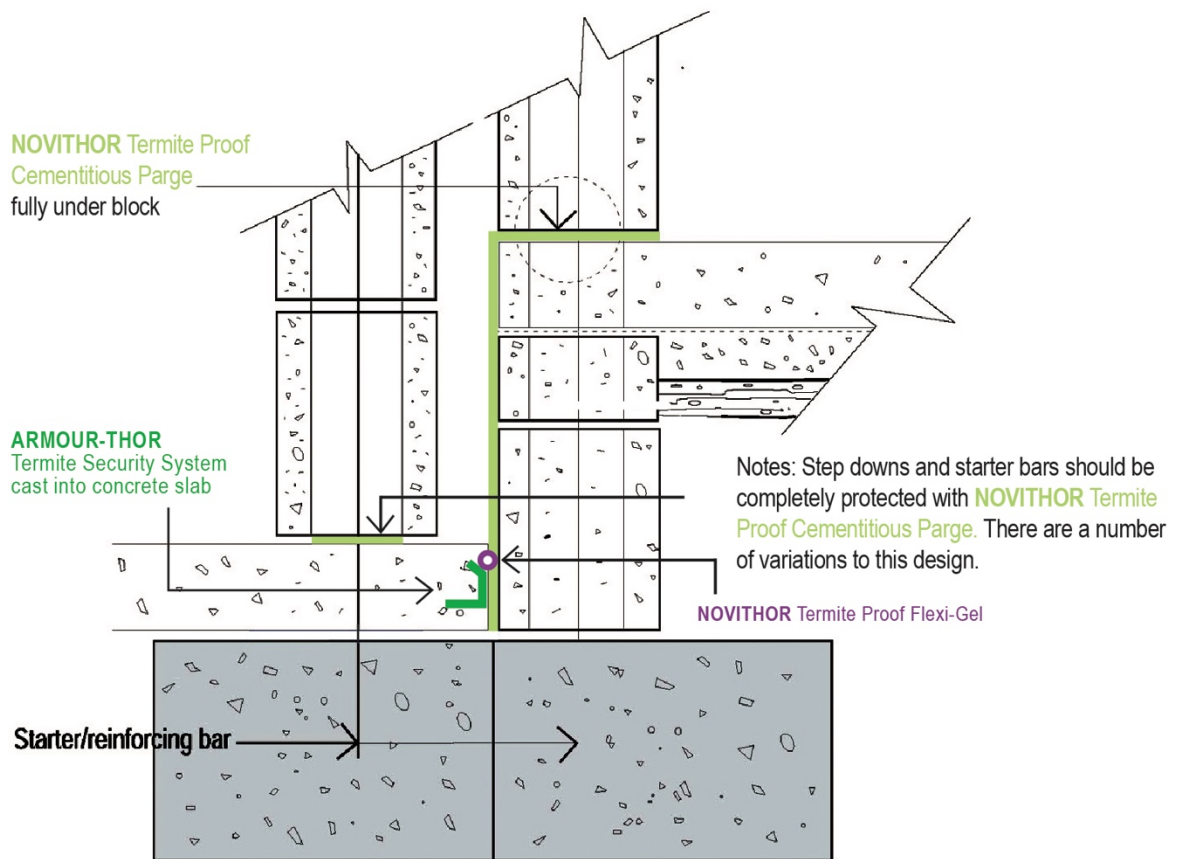


Figure 7



Figure 8 ARMOUR-THOR being rolled out



Figure 12 ARMOUR-THOR top edge folded over to form v-joint for application of NOVITHOR Flexi-Gel



Figure 9 ARMOUR-THOR being positioned



Figure 13 ARMOUR-THOR top edge folded over to form v-joint for application of NOVITHOR Flexi-Gel



Figure 10 ARMOUR-THOR folded over brickwork



Figure 14 NOVITHOR Flexi-Gel applied to v-joint



Figure 11 ARMOUR-THOR moulded to shape



Figure 15 ARMOUR-THOR bearer and joist application



Figure 16 ARMOUR-THOR position in rebate application



Figure 20 ARMOUR-THOR fastened to slab with nail gun



Figure 17 ARMOUR-THOR bearer and joist application



Figure 21 ARMOUR-THOR nailed and glued to slab. Nail heads to be covered with NOVITHOR Flexi-Gel



Figure 18 ARMOUR-THOR folded for construction joint



Figure 22 ARMOUR-THOR as pier cap



Figure 19 ARMOUR-THOR positioned on top of construction joint. NOVITHOR Flex-Gel being applied.



Figure 23 ARMOUR-THOR for perimeter bearer and joist and engaged pier application



Figure 24 ARMOUR-THOR attached to concrete slab edge and cast into concrete slab as construction joint



Figure 26 ARMOUR-THOR construction joint. NOVITHOR Flexi-Gel being applied to the v-joint in the ARMOUR-THOR.



Figure 25 ARMOUR-THOR attached to concrete slab edge and cast into concrete slab as construction joint



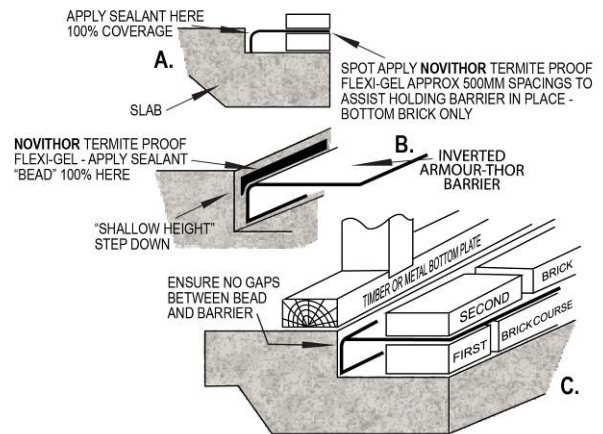
Figure 27 ARMOUR-THOR being folded into cavity where brickwork is at same level as concrete slab



Figure 28 ARMOUR-THOR being folded into cavity where brickwork is at same level as concrete slab

ARMOUR-THOR LOW PROFILE SLAB STEP DOWN - HOW TO SECURE BARRIER WITH NOVITHOR SEALANT

WHEN IT'S OBVIOUS THE BARRIER CANNOT BE INSTALLED IN IT'S NORMAL UPRIGHT POSITION



NOTE: ADOPT QUALITY PEST MANAGER SKILLS AND ENSURE QUALITY WORK

Figure 29

Different Rebates

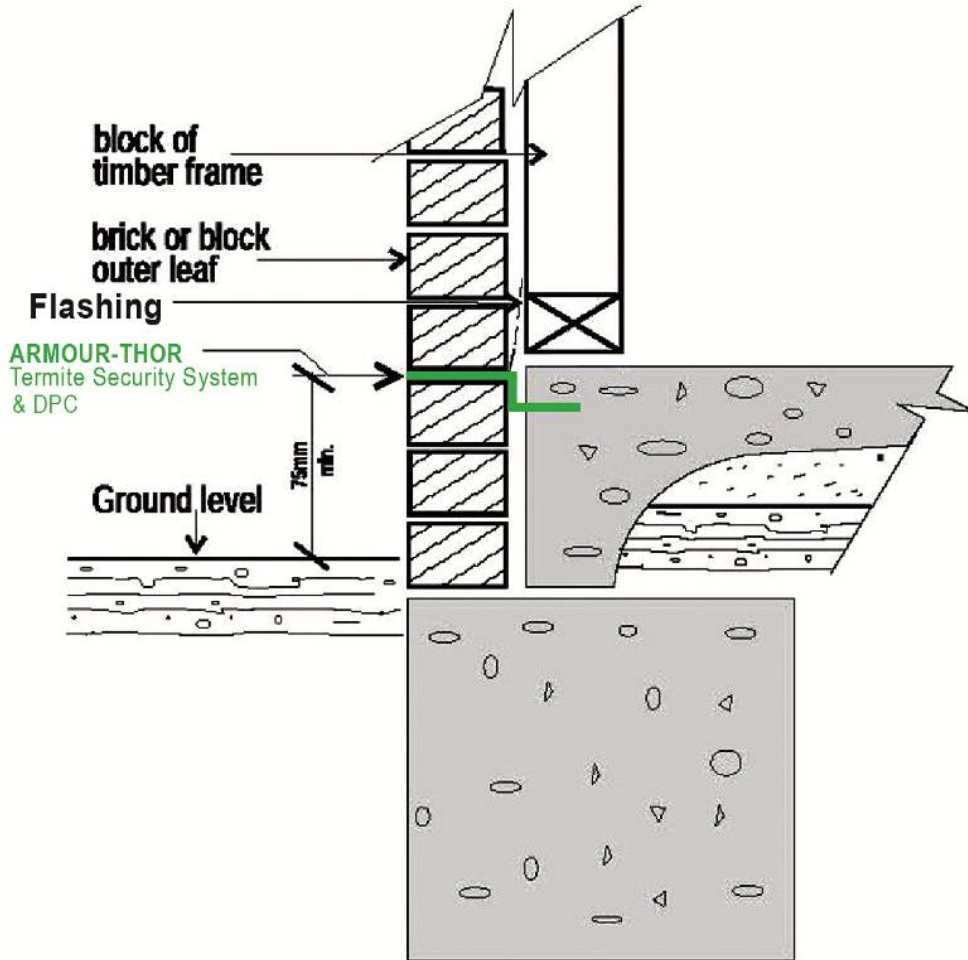


Figure 30 Outer brickwork is used as formwork, ARMOUR-THOR is folded over brickwork. Concrete slab is poured inside brickwork and ARMOUR-THOR is cast into concrete slab.

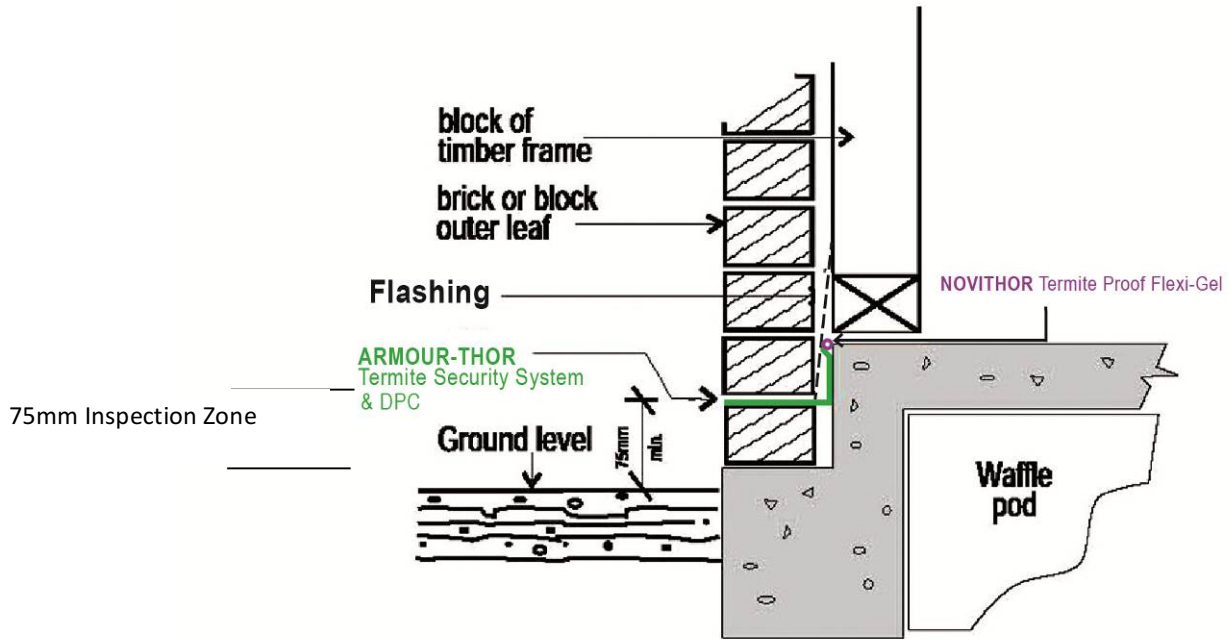


Figure 31

In-fill Slab

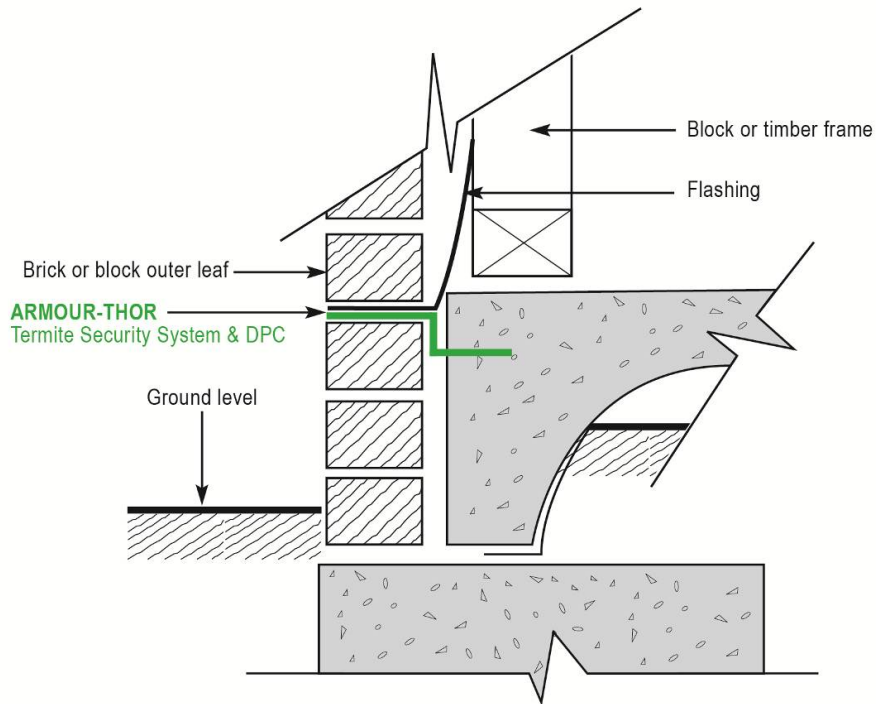


Figure 32

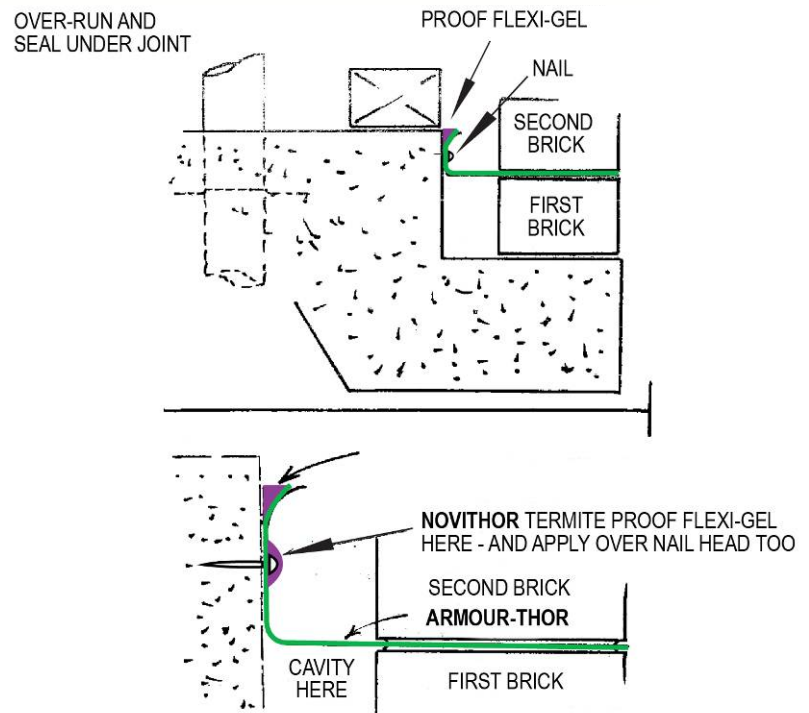


Figure 33

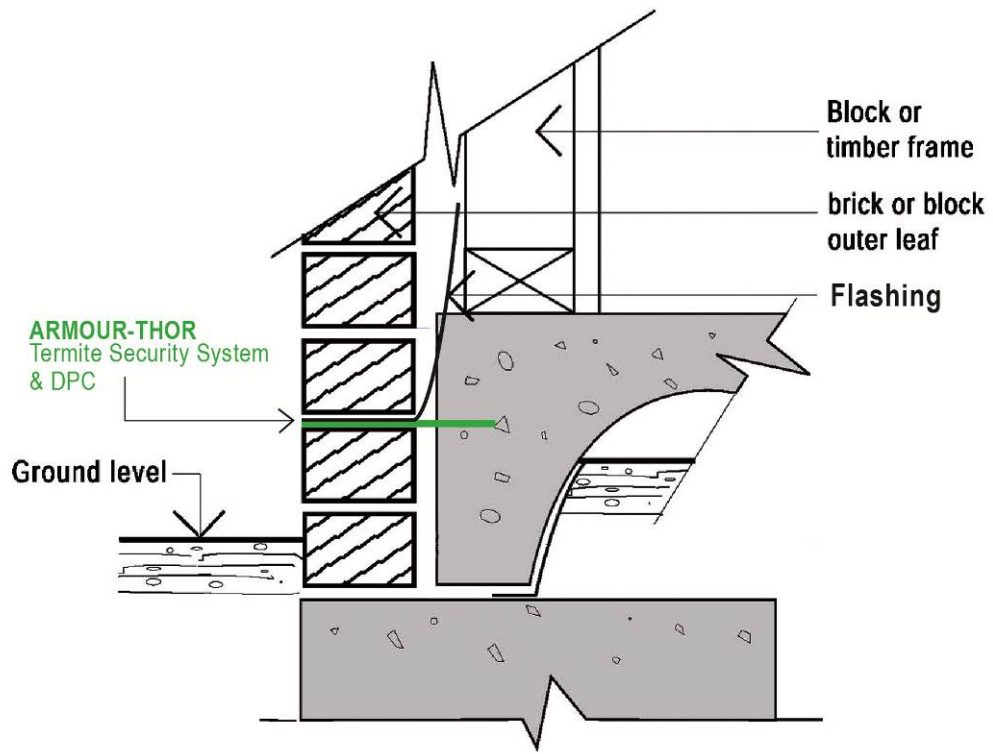


Figure 34

Step-downs



Figure 35 NOVITHOR Cementitious Parge Knock-out block



Figure 38 ARMOUR-THOR casting

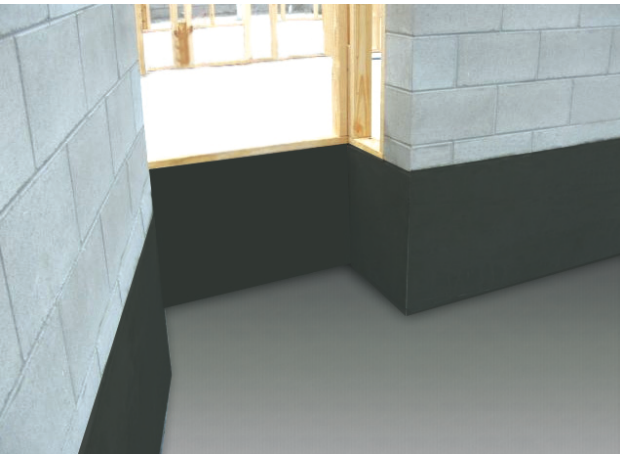


Figure 36 NOVITHOR Cementitious Parge step down between concrete slabs



Figure 39 ARMOUR-THOR construction joint

In-fill Slab



Figure 37 ARMOUR-THOR collars and perimeter casting



Figure 40 ARMOUR-THOR construction joint after casting

Rendered Walls

When the outer wall is cement rendered, ensure that, where the ARMOUR-THOR Termite Security System meets the wall perimeter, a V-joint is cut into the render to avoid cracking and detail the inspection point on the wall.

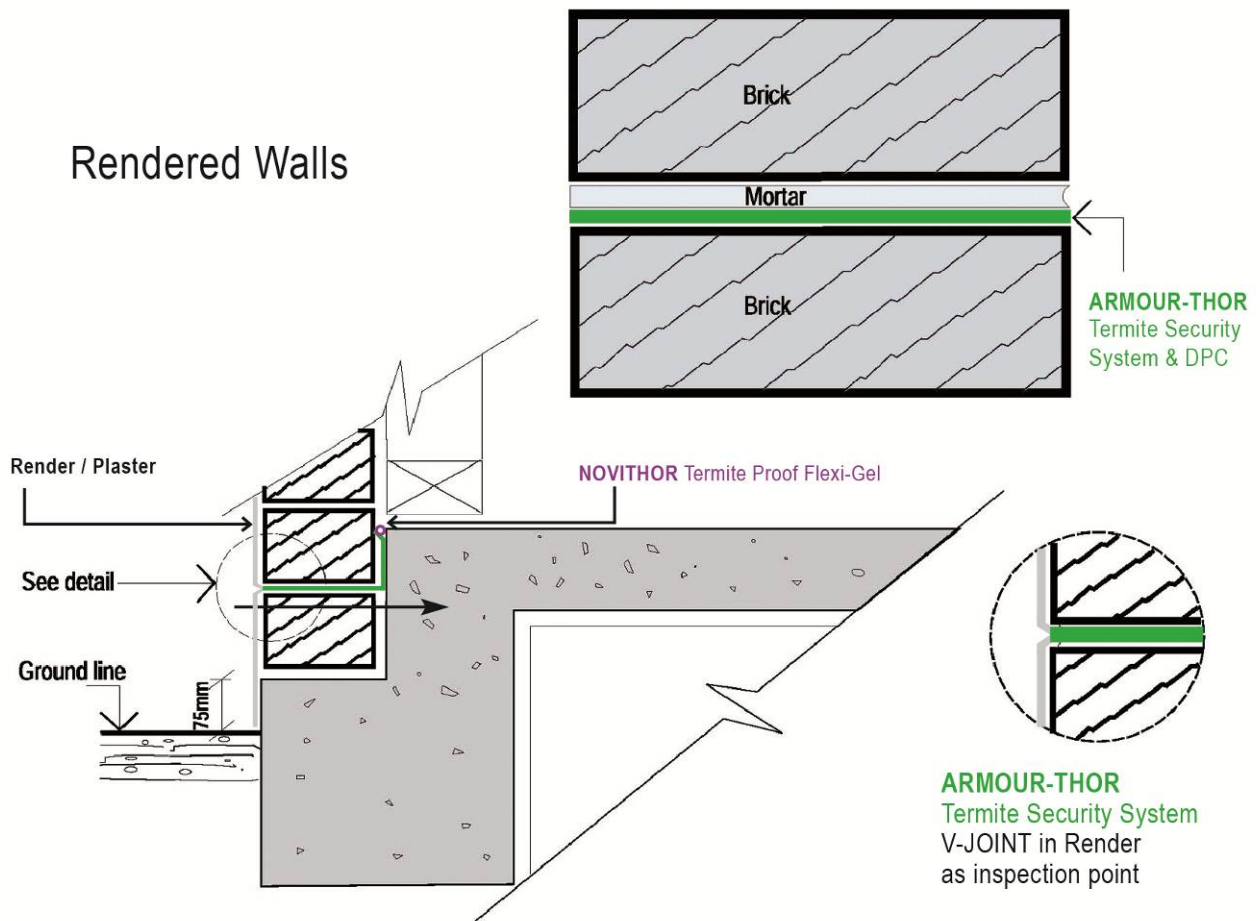


Figure 41

Face Brickwork

When the finished wall is face brickwork ARMOUR-THOR Termite Security System is finished either flush with brickwork where mortar is flush jointed, or set back 3mm from face of brickwork where recessed pointing/raking occurs.

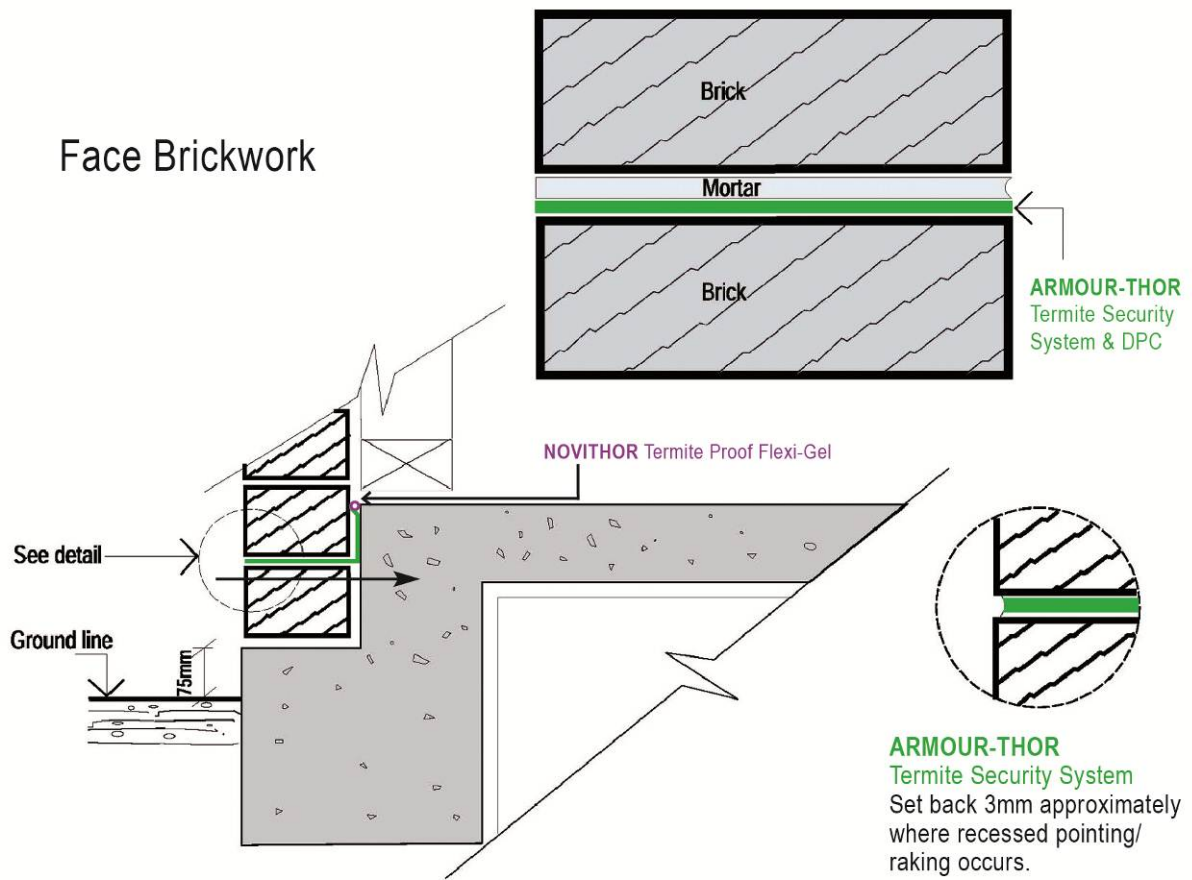


Figure 42

Corner Details

ARMOUR-THOR Termite Security Corners are formed on site and must be formed as detailed below. Using this method, a slab edge rebate will require a course of brickwork being laid before you can commence the perimeter installation. Of course for in-fill slabs the reverse procedure to that illustrated below will apply.

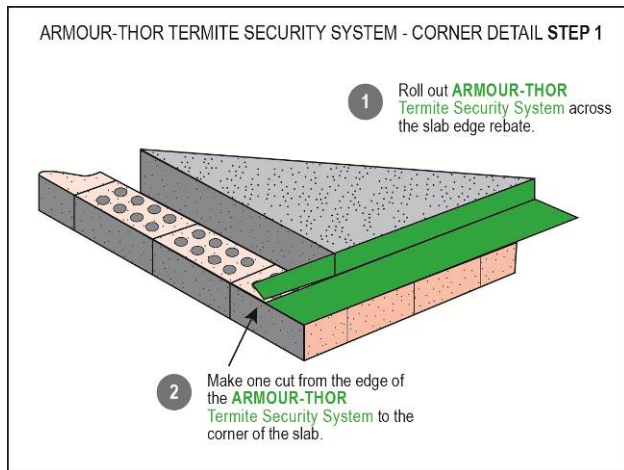


Figure 43

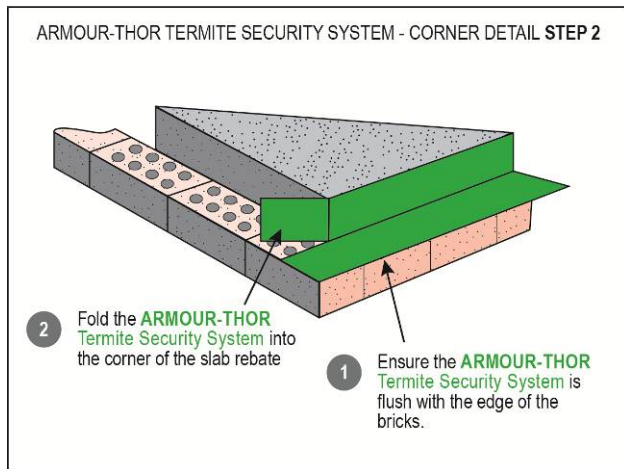


Figure 44

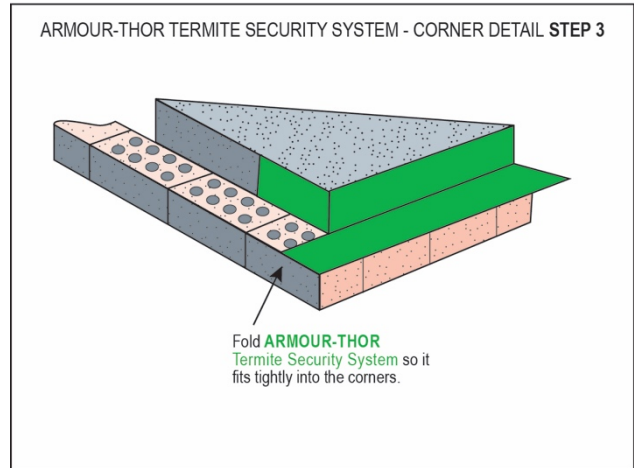


Figure 45

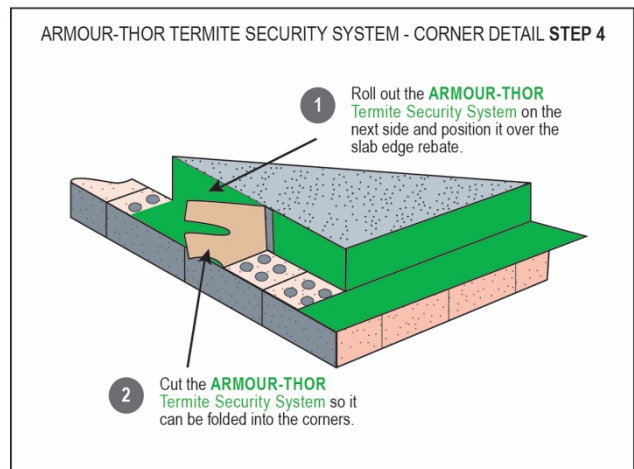


Figure 46

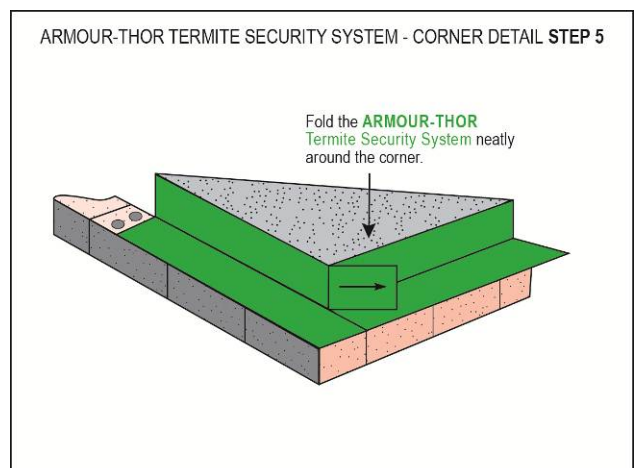


Figure 47



Figure 48

Joining the ARMOUR-THOR Termite Security System

All joins, cuts, folds and overlaps in the ARMOUR-THOR Termite Security System require a minimum overlap of 30mm and should always be 100% sealed. It should be NOTED that for ALL joins and overlaps that are to be glued together with Termite Proof Flex-Gel, the polypropylene protective tape, where present, MUST be removed from the ARMOUR-THOR Termite Security System at these joins.

To remove the protective tape from the ARMOUR-THOR Termite Security System, use a Stanley knife to cut the tape the required distance of the overlap. To help remove the tape, either a heat gun or butane torch can be used to gently heat the tape, this will soften the glue and allow for easier removal of the tape.

Note: apply the Termite Proof Flex-Gel between the overlap at all joins in the ARMOUR-THOR Termite Security Barrier, the exposed edge of the aluminium at the join is to be over coated with the Termite Proof Flex-Gel as shown.

Fastening Nails

Remove all plastic caps from the Trackmaster fastening pins holding the ARMOUR-THOR Termite Security System barrier in place and cover all nail heads with a generous quantity of NOVITHOR Termite Proof Flex-Gel.

ARMOUR-THOR CORNERS & FOLDS

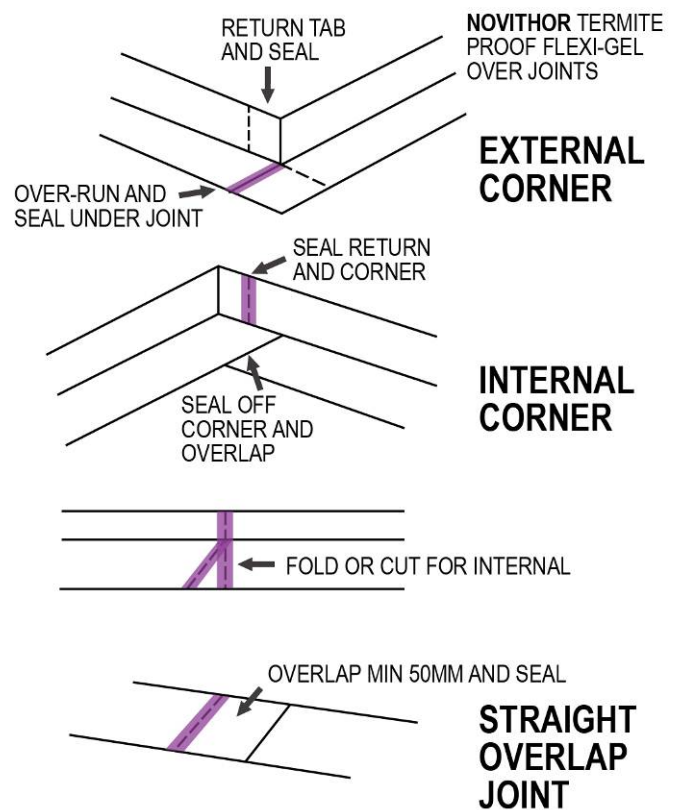


Figure 49

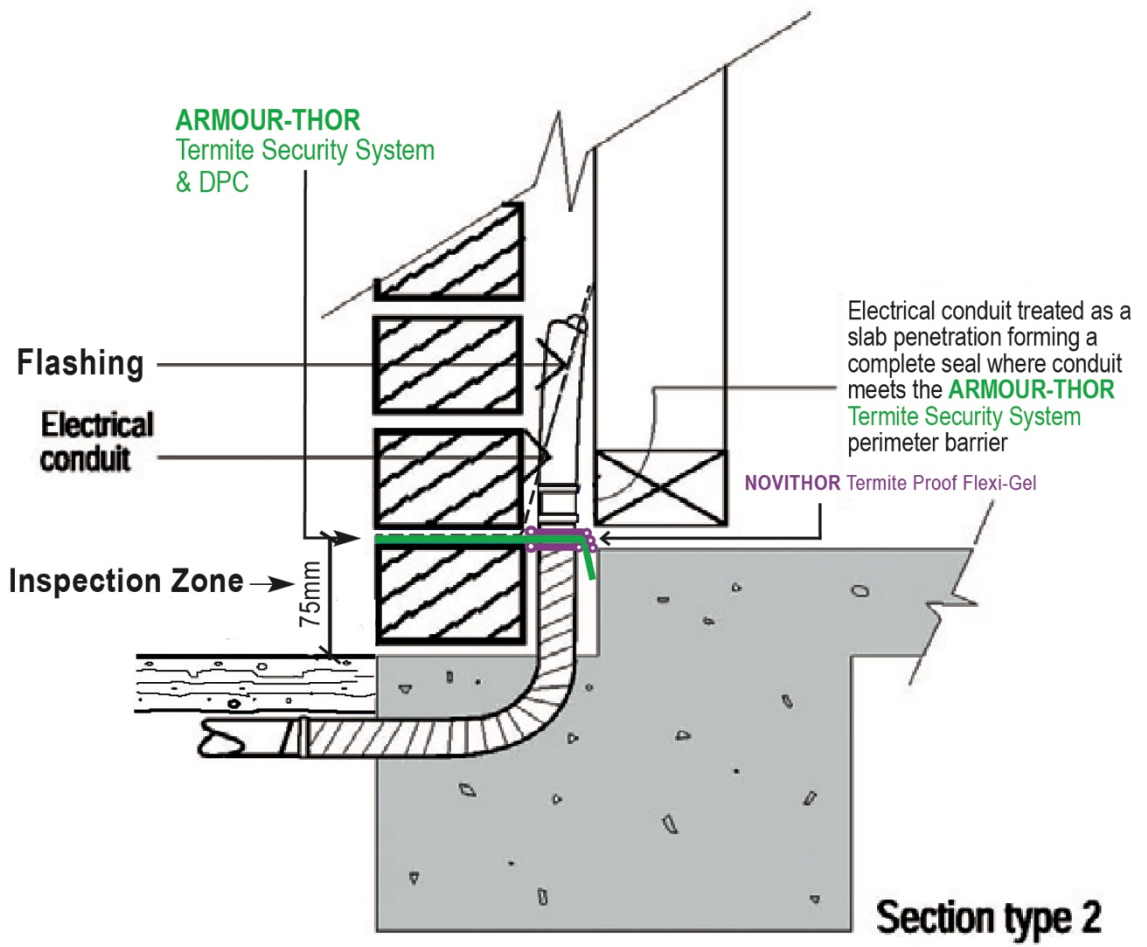


Figure 50

ARMOUR-THOR construction joint examples



Figure 51



Figure 52



Figure 53



Figure 54



Figure 55



Figure 56



Figure 57



Figure 59



Figure 58

Access Ramps

For access ramps, the ARMOUR-THOR Termite Security System is applied to the vertical face of the concrete slab prior to pouring the concrete ramp.

A 110mm folded strip of ARMOUR-THOR Aluminium is attached to the concrete slab, the strip is formed into a 90 degree angle and attached to the height of the slab and extended down to the footing at the same angle as the concrete ramp. The 90 degree fold is cast into the concrete ramp.

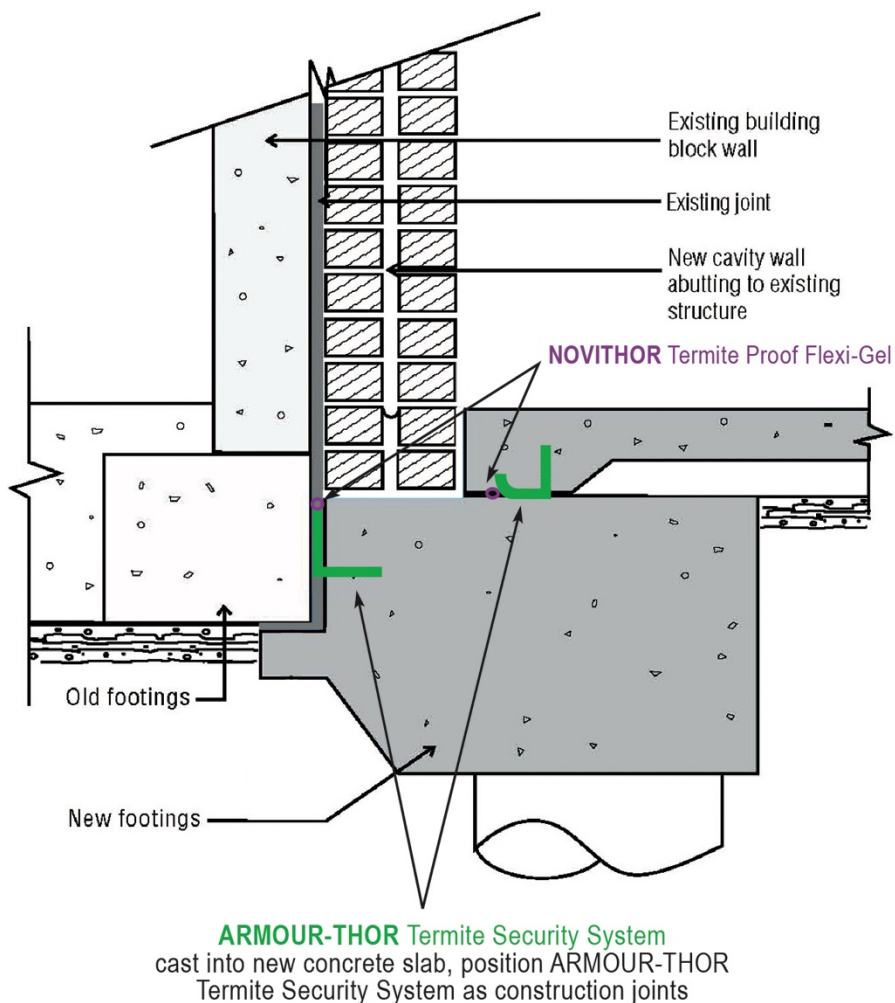


Figure 60

Existing Concrete / New Concrete Joints

Where for example an extension is adjoining an existing concrete slab, it creates a clear area for potential termite entry. ARMOUR-THOR Termite Security System is easily adapted to protect against concealed termite entry in these situations.

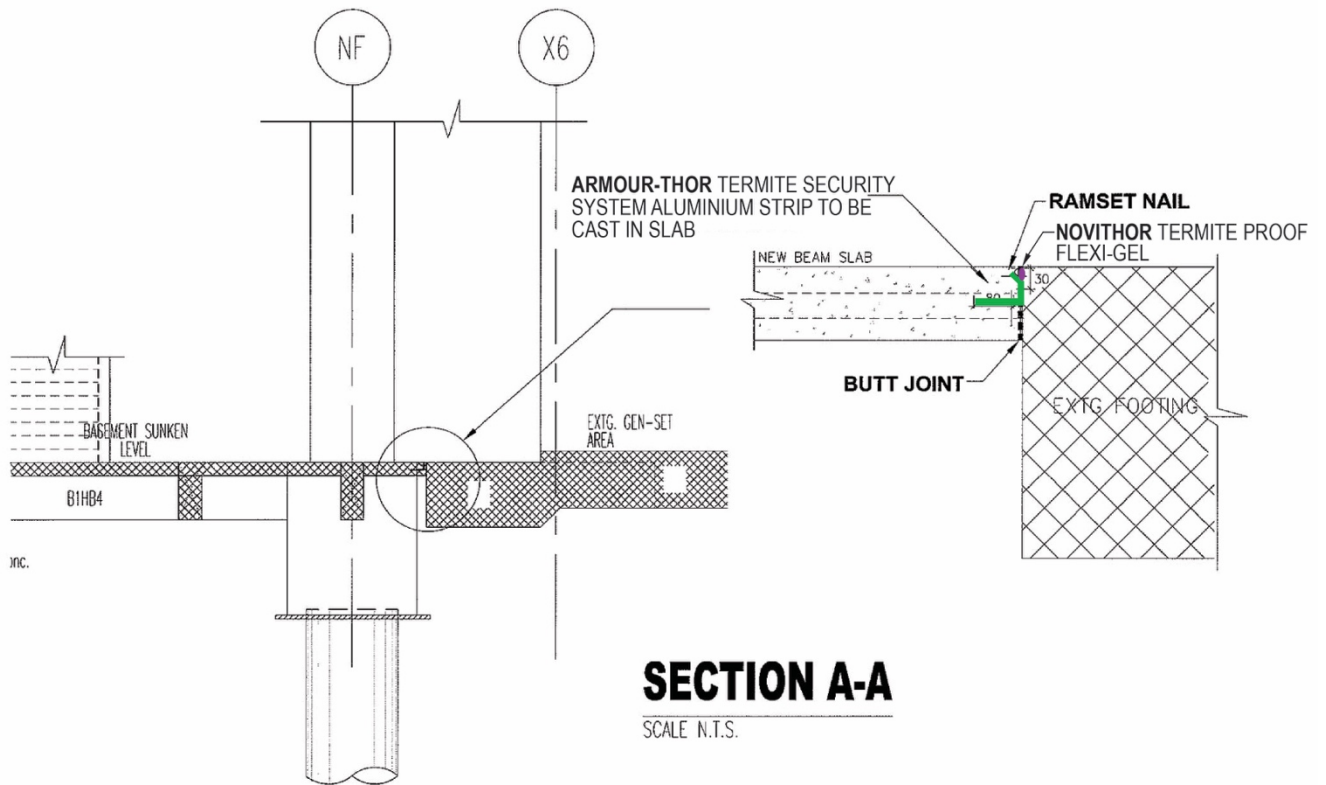


Figure 61

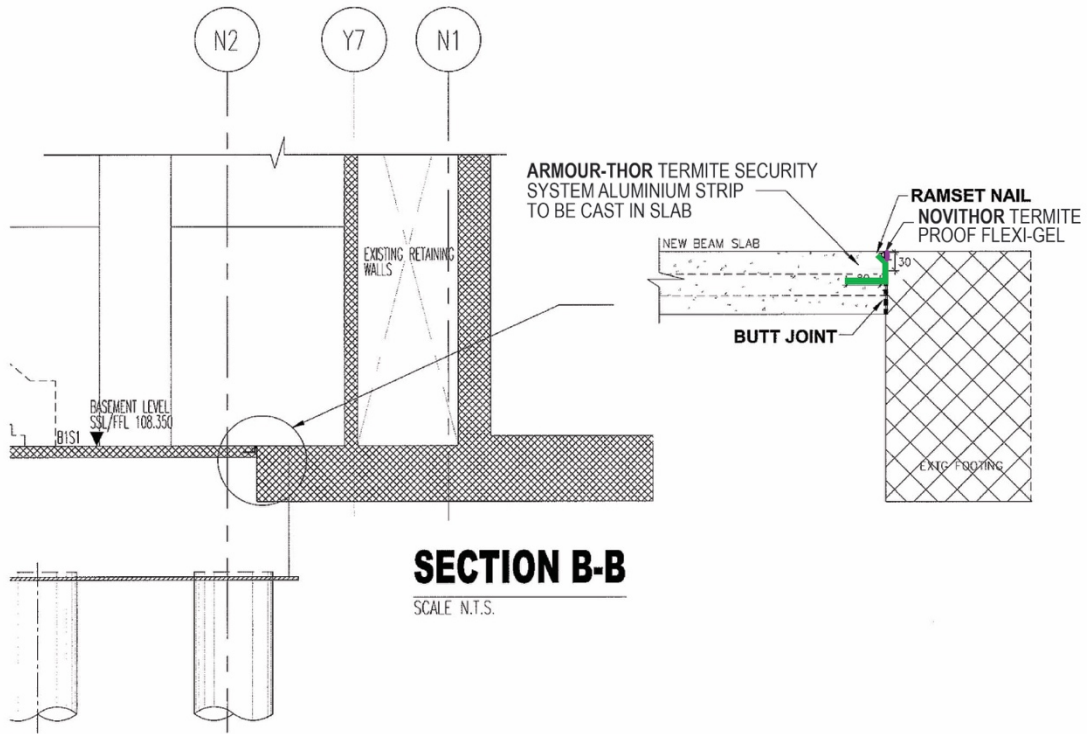


Figure 62

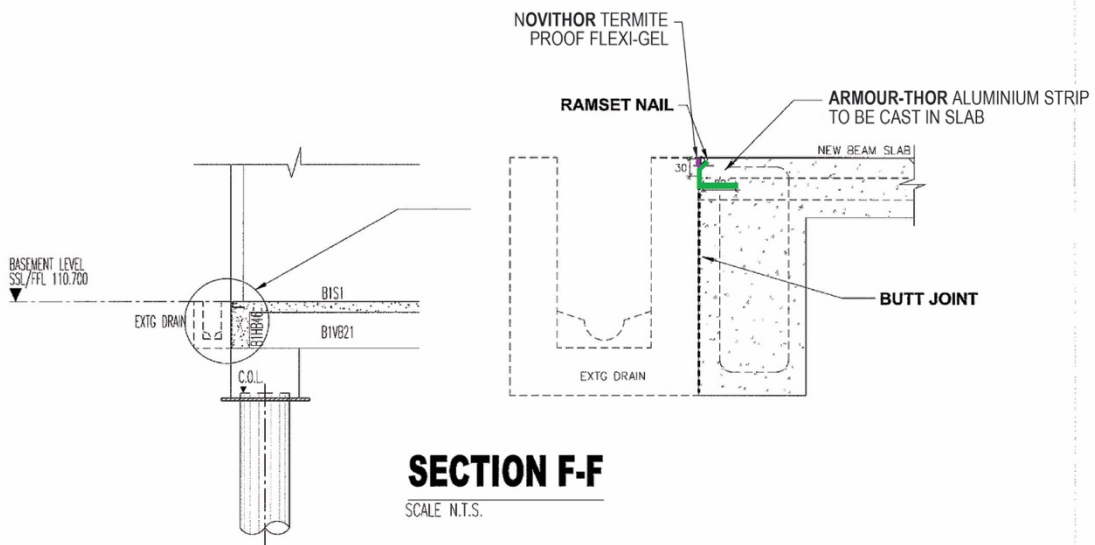


Figure 63

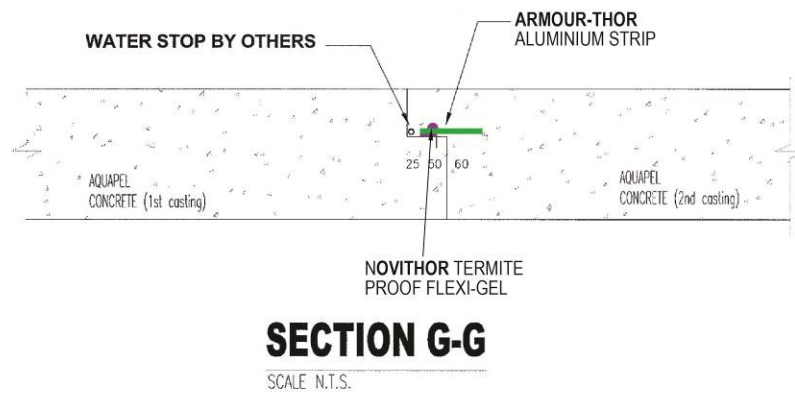


Figure 64

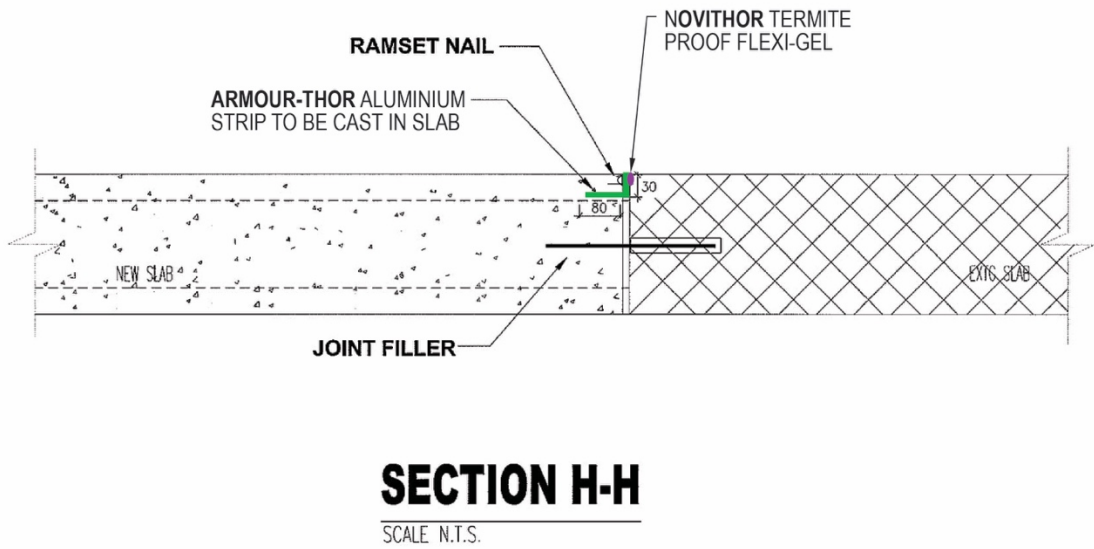
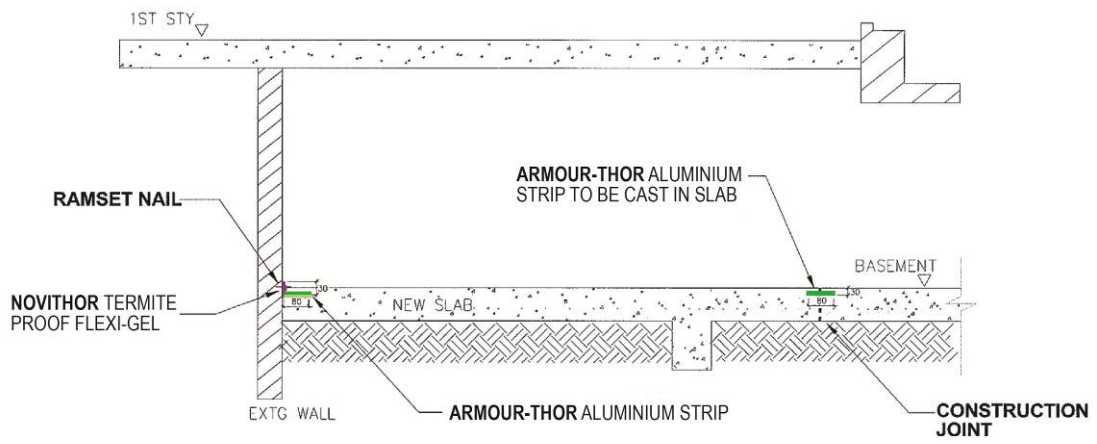


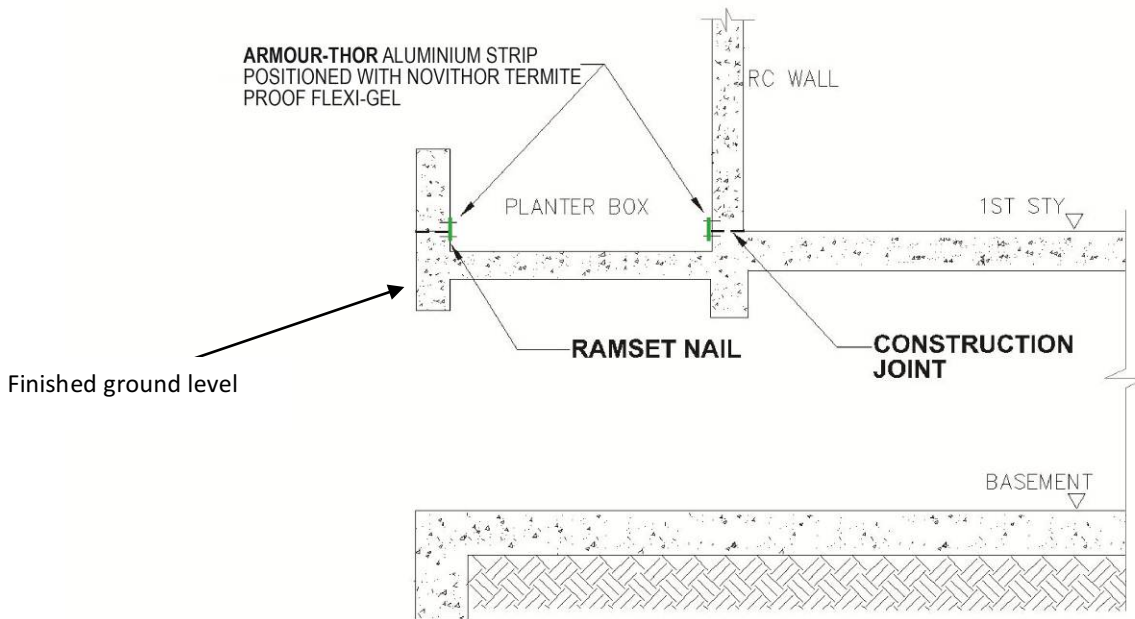
Figure 65



SECTION I-I

SCALE N.T.S.

Figure 66



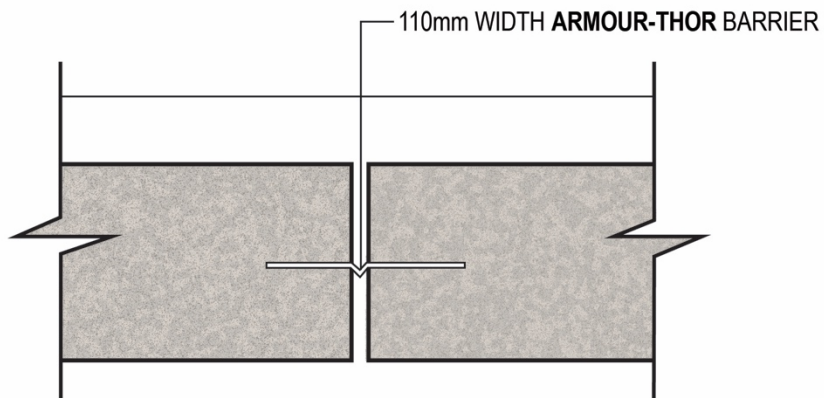
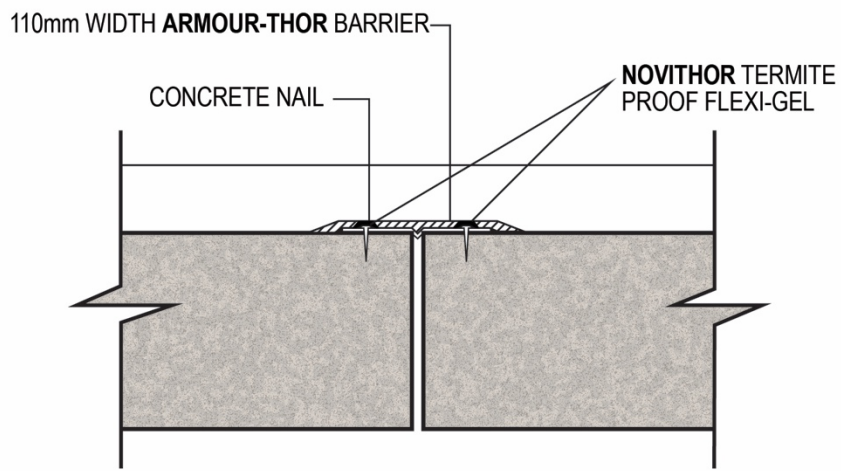
SECTION J-J

SCALE : N.T.S

Figure 67

Figure 68

**ARMOUR-THOR TERMITE SECURITY SYSTEM AT
EXPANSION JOINT DETAIL**



Doors and Windows

Special attention to detail is required when installing ARMOUR-THOR Termite Security System for placement of doors or windows.

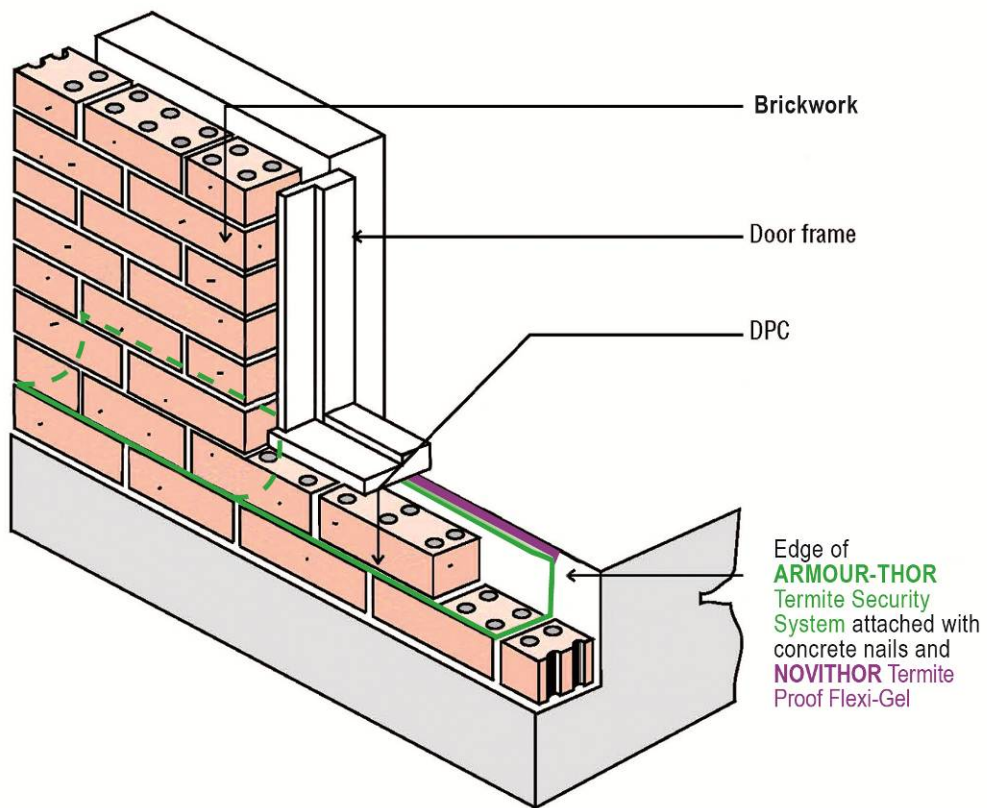


Figure 69

Suspended Floors

ARMOUR-THOR Termite Security System is installed along the curtain walls, over engaged piers and bearer supports.

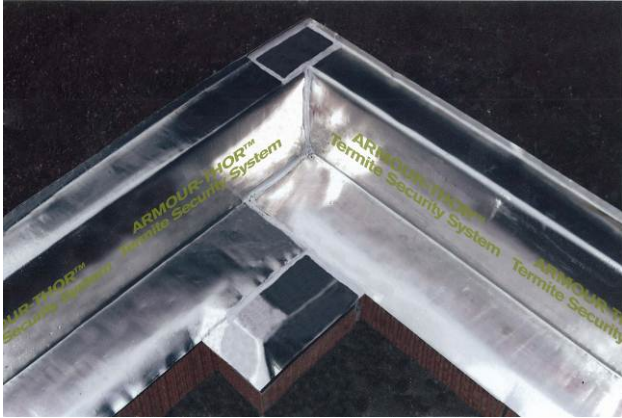


Figure 70

ARMOUR-THOR Termite Security System must be cut to fully overlap the walls, piers, engaged piers and/or supports, so that it overhangs by 55mm. ARMOUR-THOR Termite Security System should be glued in place as appropriate.



Figure 72



Figure 71



Figure 73

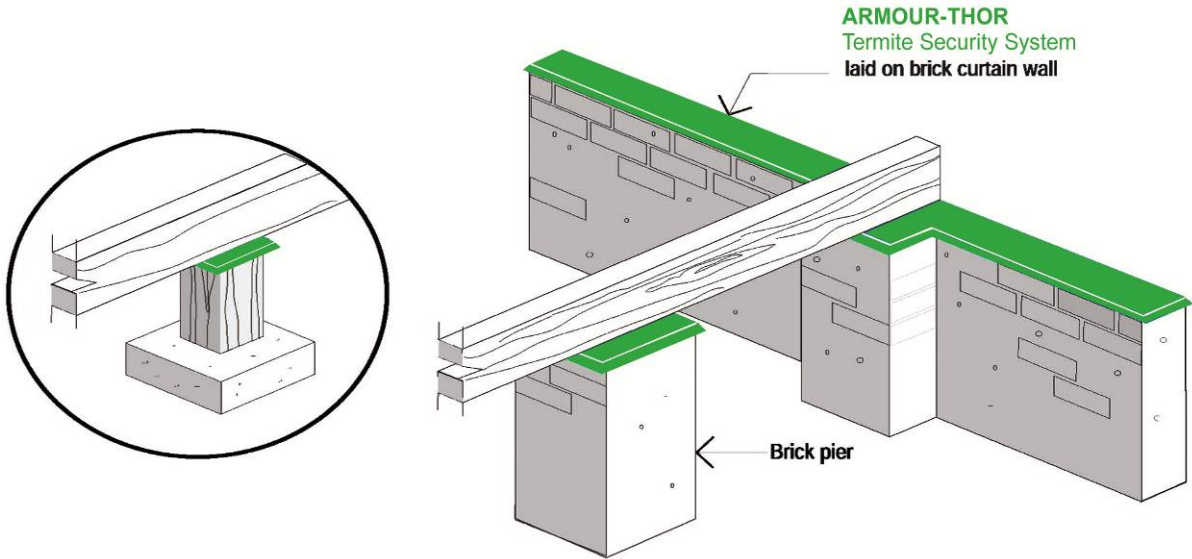


Figure 74

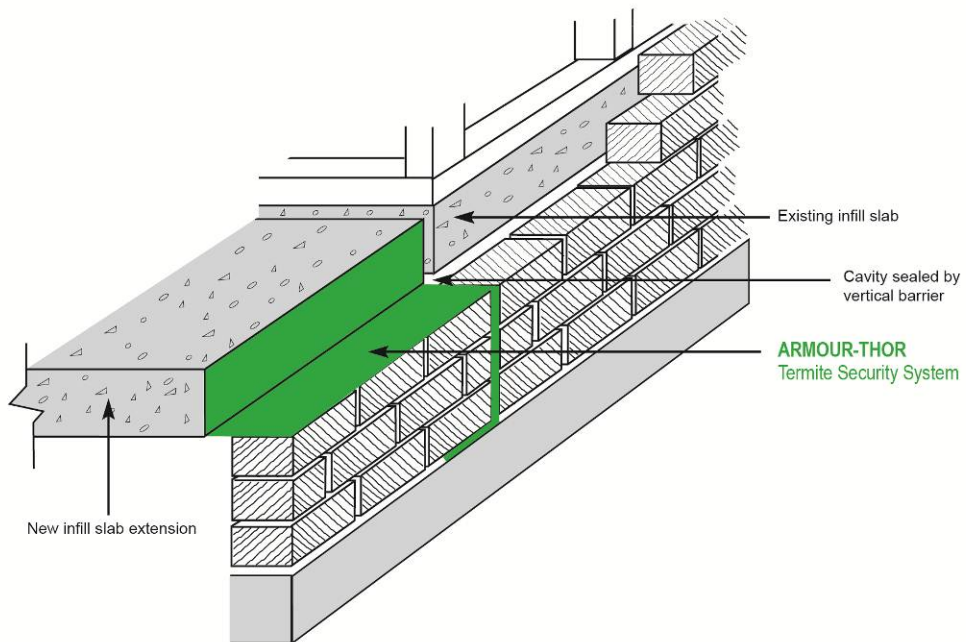
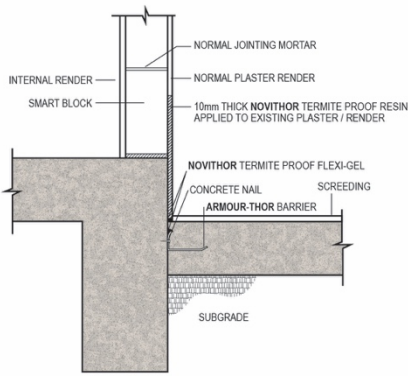
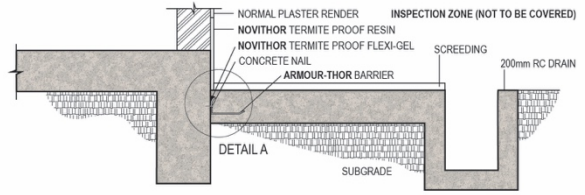


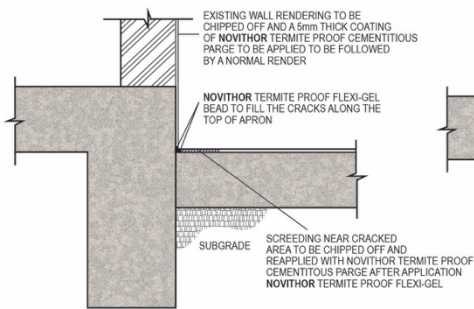
Figure 75



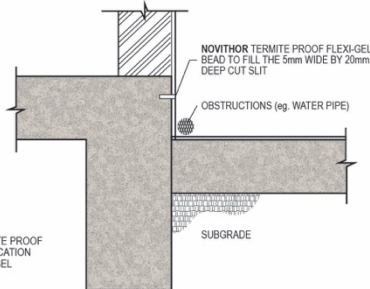
DETAIL A (SMART BLOCK LIGHT WEIGHT PARTITION)



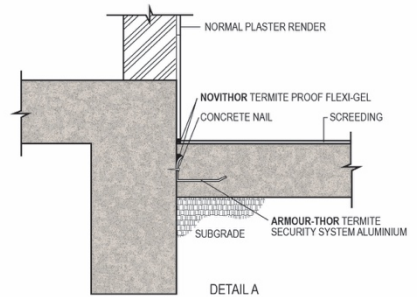
ARMOUR-THOR TERMITE SECURITY SYSTEM ALUMINIUM BARRIER IN RC APRON



NOVITHOR TERMITE SECURITY SYSTEM BARRIER RETROFIT FOR EXISTING BUILDING (NO OBSTRUCTIONS)



NOVITHOR TERMITE SECURITY SYSTEM BARRIER RETROFIT FOR EXISTING BUILDING (OBSTRUCTIONS)



ARMOUR-THOR TERMITE SECURITY SYSTEM

Figure 76

Retaining Walls

TERMITE PROTECTION SYSTEM FOR EXTERIOR WALL

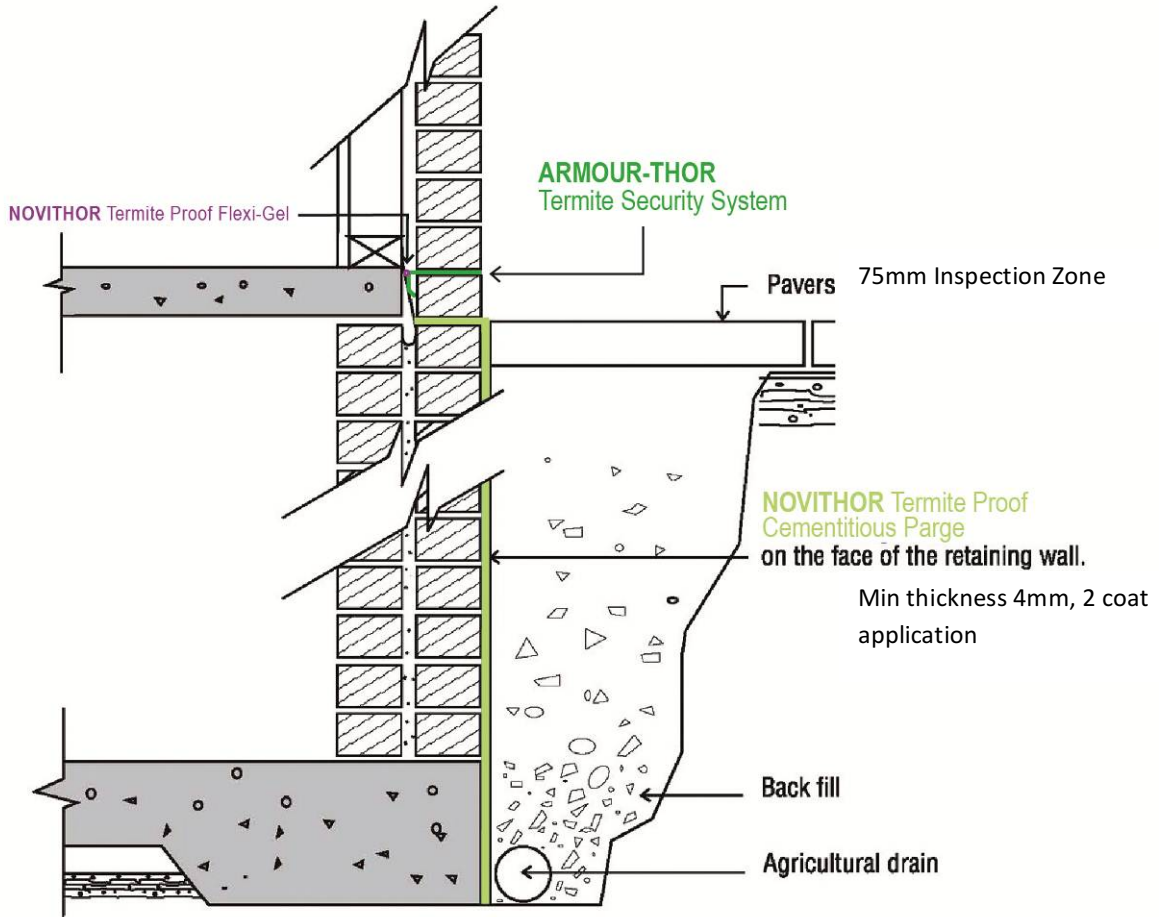


Figure 77

ARMOUR-THOR Termite Security Collars

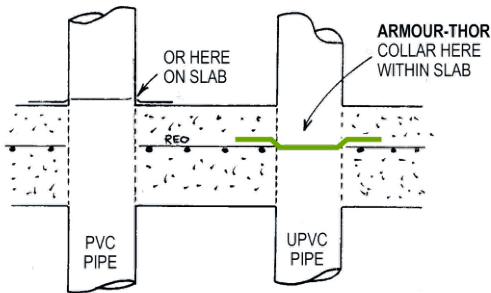


Figure 78

ARMOUR-THOR Termite Security Collars are used as a physical termite barrier around plumbing pipes and electrical conduits that penetrate through reinforced concrete slabs. They come in the following sizes, and can be adapted to suit an even wider range of pipe sizes.

100mm
82mm
56mm
43mm
19mm
12mm

Since the collars for pipe penetrations are made from Flex-temper aluminium they can be moulded into various shapes and can fit the tightest of situations e.g. two pipes side by side.

The internal flange on collars is able to be cut and expanded to enable it to be fitted over flanged ends of pipes, once fitted over the flange, the collar is pressed back into its original shape and fastened onto the pipe with Termite Proof Flex-Gel.



Figure 79

Installation

IN- SLAB FIXING

1. Select the correct sized ARMOUR-THOR Termite Security Collar, ensuring a neat fit is achieved, with the internal flange extension facing down.
2. The Collar is positioned at the height of the chaired steel reinforcement.
3. Seal between pipe and the Collar with Termite Proof Flex-Gel. Ensure all surfaces are clean and allow adequate time for the Flex-Gel to cure before proceeding with the concrete pour.



Figure 80



Figure 81



Figure 82

ON- SLAB FIXING

1. Select the correct sized Collar. Ensure a neat fit is achieved with the internal flange extension facing up.
2. Ensure the concrete is sound, free of dust and any curing compounds.
3. Wipe clean all surfaces with methylated spirits.
4. Apply Termite Proof Flex-Gel to the base of the pipe, the internal edge and underneath of the Collar.



Figure 83



Figure 84

Electrical Conduits

Use ARMOUR-THOR Termite Security Collars around all electrical conduits penetrating the slab.



Figure 85

Horizontal Penetrations

A horizontal penetration is a right-angle insertion into the slab. It usually occurs where a service penetration goes through an edge beam or structural beam. This may allow concealed termite entry through any hollow building materials holding the service penetrations in place (e.g. copper or PVC pipe). All such hollow structures must be replaced or removed before installing ARMOUR-THOR Termite Security Collars.

Multiple Penetrations

This is where there are several service penetrations that are close to each other. Often these consist of different pipe sizes. NOVITHOR Termite Proof Cementitious Parge may also be used in these cases. Treat each penetration separately. (See next page for details.)

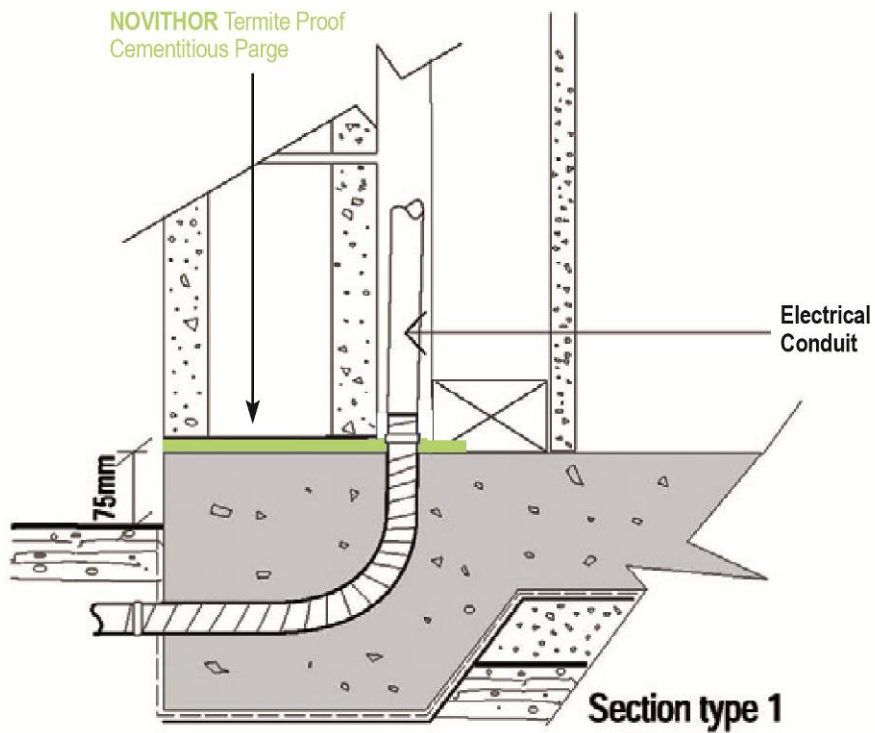


Figure 86

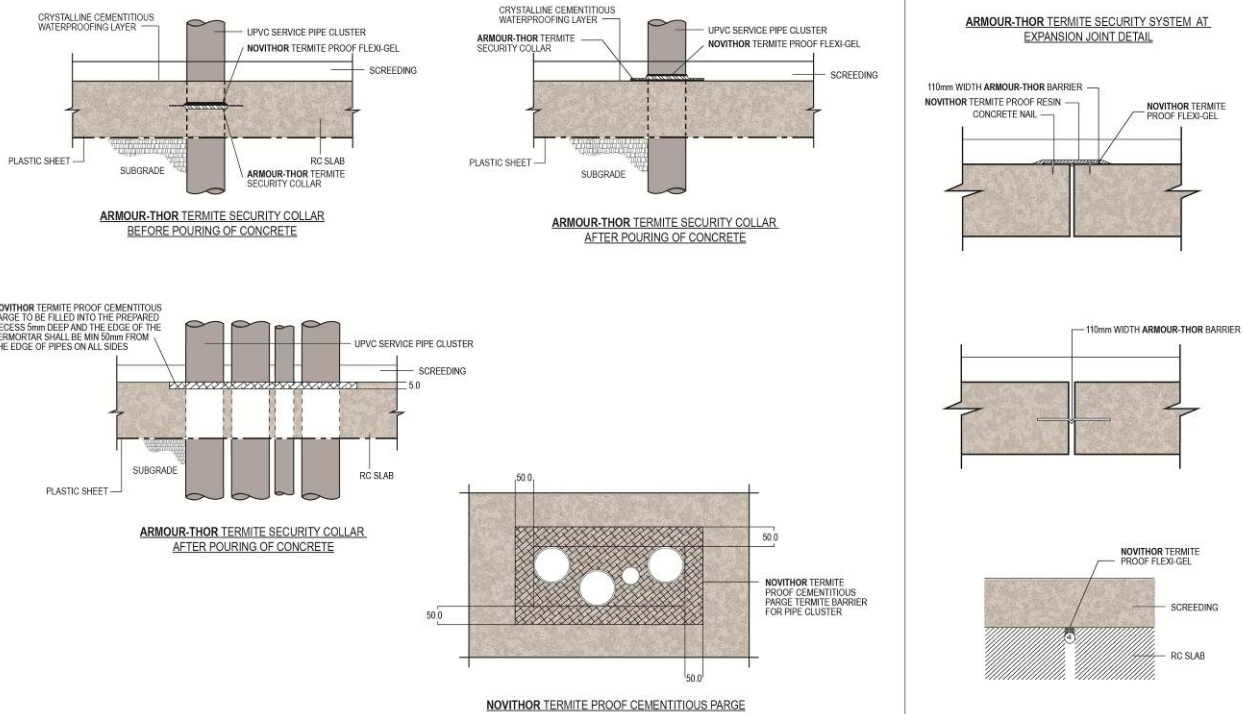


Figure 87

TERMITE PROTECTION SYSTEM FOR RETAINING WALL

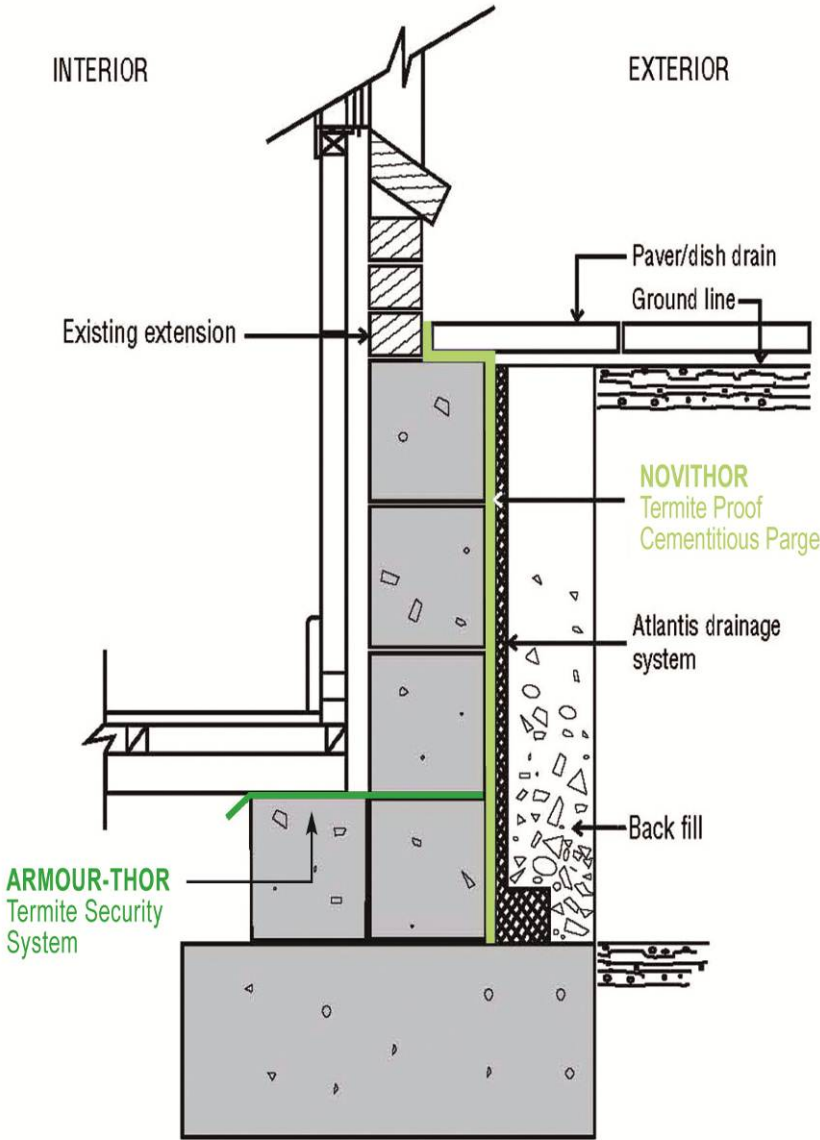
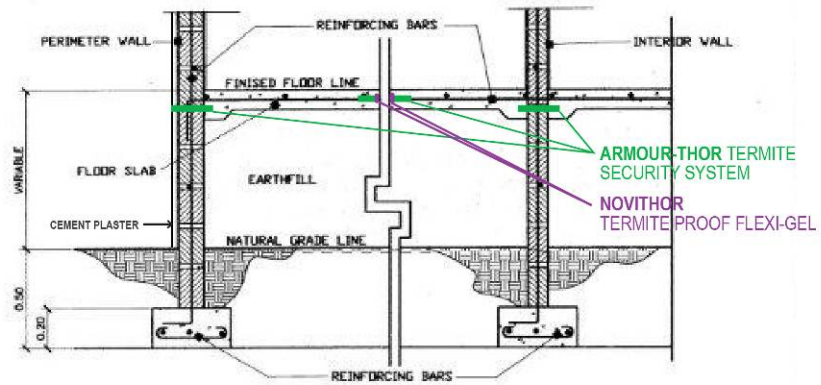
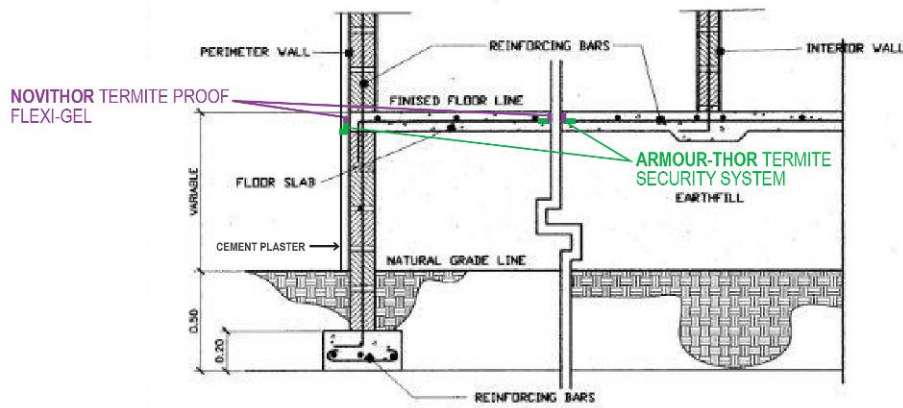


Figure 88

METHODS OF FLOOR SLAB POURING



POURING BY SECTION/ AREA



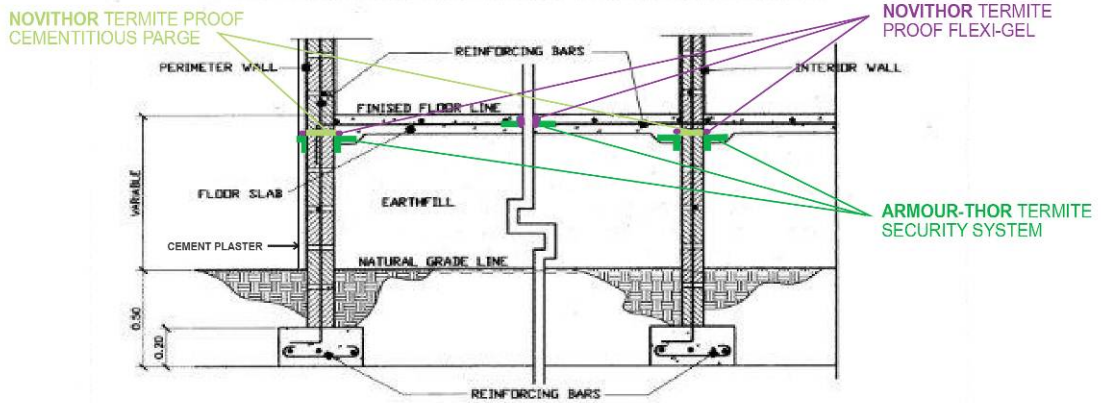
MONOLYTHIC POURING

LEGEND

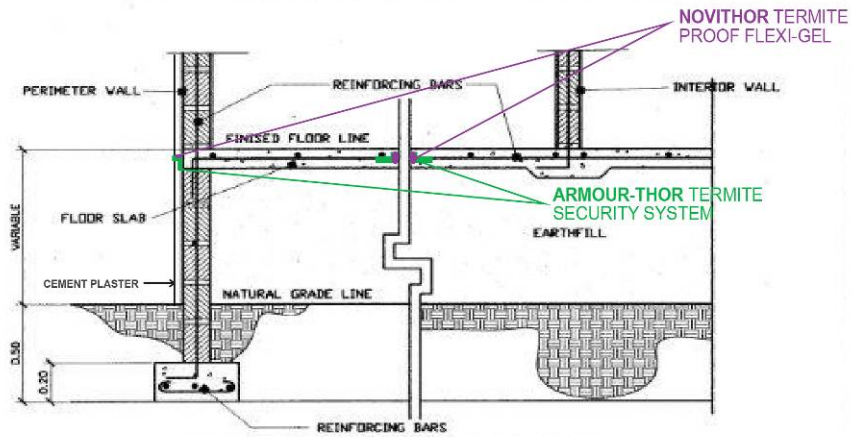
- ARMOUR-THOR TERMITE SECURITY SYSTEM
- NOVITHOR TERMITE PROOF FLEXI-GEL

Figure 89

METHODS OF FLOOR SLAB POURING



POURING BY SECTION/ AREA



MONOLITHIC POURING

LEGEND

- ARMOUR-THOR TERMITE SECURITY SYSTEM
- NOVITHOR TERMITE PROOF CEMENTITIOUS PARGE
- NOVITHOR TERMITE PROOF FLEXI-GEL

Figure 90

Essential Equipment

- Coarse bristle brush and banister brush to clean any laitance off the concrete substrate. All concrete and brick surfaces need to be flat, clean and tidy for gluing.
- Tube applicator/gel gun or sausage gun with trigger to squeeze/push Termite Proof Flex-Gel out of the tube. Use a heavy-duty applicator.
- Two putty knives with blades approx. 30-40mm wide.
- Electrical cable ties (plastic) for penetrations or square channel sections through concrete slabs.
- Tin snips, straight, left and right cutting types to cut aluminium.
- Heavy-duty bladed knife or brickies trowel, which will cut through aluminium.
- 30 metre tape measure, 30m string (chalk line) and 90° steel square.
- Marker pen.
- Ball-pane hammer, claw hammer, lump hammer and rubber mallet.
- Set of screwdrivers and compass to draw circles up to 300mm diameter. This will enable you to manufacture oversized pipe collars.
- Hand towelling or waste rags.
- 19mm concrete fastening nails or a Trackmaster gas operated automatic nailing gun with 19mm nails.
- Plastic buckets.
- Soft bristled broom.
- PPE equipment - hardhat, safety glasses and safety boots to satisfy OH&S requirements.
- 4 metre straight edge to use to make folds in aluminium.
- Water should be available on site – if not, provide your own.
- Rubber gloves or equivalent for handling products.
- Pop rivet gun and 0.3mm pop rivets.
- 1m builder's spirit level.
- ARMOUR-THOR Meter box stickers.