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Introduction

**Slab on ground/suspended floor buildings**

Plasmite Termite Barrier is to be installed into buildings to deter subterranean termite hidden ingress into the building by forcing the termites out and around the Plasmite barrier to be seen by the building’s occupants or a qualified inspector.

The combination of Plasmite PVC DShore hardness 90 and Plasmite termite resistant adhesives enable Plasmite Termite Barrier to be installed in many different methods for termite prevention in new and existing buildings.

The hard, rigid PVC has a very high impact resistance which is suitable for construction sites. When installed by qualified installers, the Plasmite Termite Barrier, as stated by CSIRO Appraisals, will comply with the building code of Australia, as well as comply with the Australian Standards 3660.1 (2000) termite management.

Plasmite Termite Barrier has passed stringent scrutiny in every aspect by CertMark Australasia and has full CodeMark Approval administered by Australian Building Codes Board.

If, at any time during any installation, the installer is unsure of what is required, that person should contact The Bug Shop on 07 3382 0236 (Distributor) for further advice before proceeding with installation.
1 Briefing on Habitat, Location & Damage caused by Termites

1.1 Termites and damage they cause

Termites and the damage they cause, is accepted as a normal risk to buildings in Australia.

Termites pose a significant threat throughout mainland Australia. They attack timber in buildings, trees, posts, poles, firewood, bridges and railway sleepers.

In the mid 1980s annual damage caused by termites in Australia was estimated to be in the vicinity of $80-$100 million. Today the figure would be considerably higher.

Termites do have their place in the environment however, as they play an important role in the breakdown and recycling of dead wood and other plant debris. Termites have been around for at least the last 120 million years. They were in Australia millions of years before eucalypt trees evolved. This long period of coexistence means that the Australia bush is adapted to their needs.
1.2 Termites Existence and the Beneficial Aspects

- Their tunnelling in the soil reduced runoff by helping rainwater to soak in more quickly. They also allow more air down to plant roots and help mix the soil layers.
- They have a crucial role in the bush where they eat unwanted woody plant parts, recycle nutrients and create habitat for many animals (birds, possums, lizards, etc.)
- Termite colonies provide a home for fungi, some smaller insects and an incubation chamber for birds and lizards.
- Human food value - winged termites have twice the protein of rump steak.
- As part of the nutrient cycle, termites are a major food source for ants, spiders, birds, reptiles and mammals (eg. Echidna & numbat).
1.3 Different Types of Termites

Planet Earth has about 2,500 different termite species. In Australia we have about 15% of the total (about 350 species). Fortunately, only a few of these species (approximately 30) damage buildings. Australia termites can be grouped into 4 classes:

- Dampwood termites,
- Grass feeders,
- Drywood termites,
- Subterranean termites.

Dampwood termites, as their name suggests, are restricted to damp timber and are most common in the tall wet forests of the eastern seaboard. They rarely infest houses, except where there is a significant moisture problem, such as from a leaking laundry or bathroom.

Grassfeeding termites do not attack timber structures.

Drywood termites live entirely within timber and are a minor pest, mostly warm and humid costal areas, where the damage they cause is not significant.

Subterranean termites cause nearly all damage to buildings. The vast bulk of this destruction is attributed to termites from a single group, the genus *Coptotermes*. In tropical Australia, *Mastotermes darwinienis* is also capable of causing significant damage. In some regions, otherwise minor genera like *Schedorhinotermes* and *Heterotermes* are prominent.

Subterranean termites take their name from their habits of either nesting below ground level or keeping some contact with the ground. They do this mostly to reach water. Sometimes, where parts of structures are always wet, subterranean termites will live without any ground contact. Such nests without ground contact have been found in docks, boats and in buildings where there is regular water from leaking showers, pipes or guttering.

Rubbermite is effective in blocking the passage of subterranean termites (excluding *Mastotermes darwinienis*).

In the rest of this document, “termite” unless otherwise specified, means “subterranean termite”.

1.4 Termite Food and Habitat

Termites are subterranean and live underground. They live on colonies which may grow to contain millions of individuals.

Subterranean termites live in the dark and damp atmosphere of their nests, foraging galleries (mud tunnels) and timber food sources. They cannot survive very long when exposed to sunlight or dry conditions. Their soft, pale skin burns easily and dries quickly.

In general termites prefer loose sandy soil or leaf mulch and humus where tunnelling is easiest. Hard clay, however, is also a suitable habitat.

The majority of termite tunnelling takes place in the top 300mm of the ground (where the wood is plentiful) although they have been known to burrow deeper, (as deep as 70 metres) and can enter buildings well above ground level, especially on sloping sites with retaining walls or cellars.

Termites are common in woodlands and forest areas that often adjoin housing estates. They feed mainly on materials containing cellulose (timber and plant materials). Termite food might include:

- Trees, stumps, garden retaining edges and mulch,
- Timber building materials,
- Furniture,
- Floor coverings
- Packing,
- Printed materials (papers, records, blueprints, books),
- Fabric,
- Clothing,
- Footwear.

Termites can also damage many other non-cellulose materials, components or structures, including the insulation on electrical cables, rigid polystyrene foam insulation and soft decorative renders, as they building galleries to reach food.
1.5 Termite Nests, Colonies and Lifecycles

Within subterranean termite nests there are a number of different castes each of which has its role to play in the operation and expansion of the colony.

- Reproductive’s i.e. Queens and Kings-breeding stock.
- Alates i.e. immature Queens and Kings that have wings and will fly away during the breeding season to mate and establish new colonies.
- Workers i.e. search for food, build galleries, groom other termites, feed the Reproductive’s, Alates and Soldiers.
- Soldiers i.e. defend the nest from predators, especially ants.

Termites from a large mature colony may forage for food and attack timber over an area of one hectare.

A typical termite has a maximum life expectancy of about four years and takes about four months to develop from egg to maturity.

As the colony starts with just two individuals (Queen and King), it takes awhile to build up numbers. It is unusual for a new colony to significantly damage a building until at least three to five years have passed.

Some termite colonies have been known to exist for well over 25 years, and in species where the Queen and King can be replaced, the colony is essentially immortal (i.e. will not die of old age).

![Lifecycle of a termite](image-url)
1.6 How Termites Ingress into Structures

- These tunnels are usually made in the top 300mm of soil but may be deeper, especially in fill and under tree roots.
- Termites mostly enter buildings from underground tunnels.
- They can penetrate through expansion joints or uncontrolled cracks in concrete slabs and through shrinkage gaps between slabs and walls.
- They typically enter buildings through footings which are in contact with the ground.
- Other major areas of termite penetration are alongside service connections, such as water and gas pipes which pass through the floor or walls.
- Another favourite entry point is via garden beds or wood heaps that are built up against a buildings walls.
- If termites cannot tunnel directly from the ground to the food they have found, they will build above-ground galleries (mud tubes) to bridge over non-food obstructions. By moving inside these mud tubes they can safely reach their food.
1.7 Where Termites Get into the Structure

There are many potential points of entry as indicated in the diagrams here and over the page.
COMMON SITES OF TERMITE ENTRY

Door jams are subject to exposure from the outside environment and often have porches, patios, decks, and even soil.

Expansion joints
Cracks around plumbing or electrical pipes
Cracks in the slab
Concrete slabs serve as a barrier but can have faults which allow termites to enter.

In crawl spaces, termites can build their mud tubes along the foundation wall and support piers.

TERMITICIDES

Applying termiteicides to soil around the exterior foundation creates a chemical barrier against the termites and is accomplished by injecting rodent and/or drilling.

SLAB TREATMENT

A treatment for slab construction consists of drilling through the slab floor and injecting termiteicides into soil along the inside perimeter of the foundation.

BASEMENT

Basement construction may require treatment which injects termiteicides into the soil through treated drips on the basement floor at regular intervals.

CRAWL SPACES

Crawl space treatment also involves trenching or rodiong soil along the foundation walls and around piers and pipes, then applying termiteicides to the soil.
Module 1 Revision

1. Plasmite PVC Termite Barrier is effective in blocking which group of termites?

2. Why do termites build earthen tunnels?

3. List three ways termites can enter a building.

4. Will termites damage non-timber materials in a building e.g. concrete?

5. Which members of the termite colony do you need to see to allow identification of the termite species? What physical characteristics are important?

6. Is Plasmite PVC Termite Barrier efficient in stopping termite ingress?
2 Preventing Termite Access to Structures

Physical and chemical termite barriers rely on the same basic principles.

The fundamental feature of a termite protection system is to install or construct some form of barrier through which termites will not pass. This barrier may, for example, take the form of a Bifenthrin (chemical) or Rubbermite (physical) termite barrier.

2.1 Termite Barrier (Chemical)

Chemical barrier systems use toxic termiticides which are applied to the area underneath and on/around a building's footings and foundations. This poisons the ground and kills or repels termites as they try to tunnel through the soil to reach the cellulose food above.

Today there are two major groups of chemical termiticides used for new construction, the organophosphates and synthetic pyrethroids. Newer molecular groups are also being introduced for remedial control of termites. All chemical termiticide formulations have been developed from insecticides originally intended for agricultural use. None is specific to termites and all are active against a wide variety of non-pest species. Prior to 1995 long-life organochlorine chemicals were used. They are now banned in Australia and cannot be used.

2.1.1 Organochlorine Materials

Organochlorines are also known as cyclodienes. The best known termiticide examples are:

- Chlordane
- Heptachlor

Historically these chemicals were the most widely used termiticides. They were cheap. Organochlorine termiticides could be used to form termite barriers because they took a very long time to break down. This lasting residual poison capacity in the soil could be effective even at relatively low concentration levels.

Organochlorines are, however, dangerous chemicals. Because of environmental and health concerns, their use has been banned in most developed countries. The last major use of organochlorins in Australia was as termiticides in the Northern Territory. Organochlorine residues are still commonly found in surveys of human breast milk.

The Australian Pesticides and Veterinary Medicines Authority enquiry recommended, on the advice of National Health and Medical Research Council reports, that organochlorines be completely banned for termite treatment in all parts of Australia, except the Northern Territory, from June 1995.

Other types of organochlorine termiticides, DDT, Dieldrin and Aldrin, have not been in use in the last 2 decades.
2.1.2 Organophosphate Materials

Chlorpyrifos is the only organophosphate currently registered for use against termites in Australia. Dursban™ is the main brand name of DowAgrosciences’ chlorpyrifos products and is the best known of the dozens of brands on the Australian market.

Organophosphates are related to nerve gases. They are generally more toxic than organochlorins and are also more expensive. Organophosphates are considered to be safer than organochlorins because they are less persistent in the ground as they break down more rapidly. Breakdown occurs because the molecular bonds are not as strong as those of the organochlorins. Phosphates are widely sought by plants as nutrients.

In Australian experience, organophosphate termite barriers breakdown has been reported in as little as 3 months. CSIRO tests on organophosphates (in ideal conditions) have indicated an effective working life of between 3 and 15 years.

Organophosphates need a consistent and complete coverage to be effective so operator skill in their use is paramount. The regular re-treatments required with organophosphates also depend on the applicator being able to achieve an even distribution of chemical and gain good access to the building sub-floor and perimeter areas.

Replenishment of degraded organophosphate barriers under concrete slabs can be achieved by drilling through the slab and injecting the chemical under pressure or installing a network of pipes during construction to reticulate the chemical into the ground beneath the slab. It is essential that slab drilling and reticulation systems provide an even and complete chemical distribution in order for the barrier to be effective. The likelihood of achieving such a distribution will vary with differing foundation soil types and densities. Reticulation pipes can also be installed around a building perimeter as a means of distributing chemical directly into the soil.

Where there is adequate access under suspended floors and around building perimeters organophosphates barriers can be replenished by hand-spraying.
2.1.3 Synthetic Pyrethroid Materials

Synthetic pyrethroids include Bifenthrin, Cypermethrin, Deltamethrin, Fenvalerate and Permethrin.

Examples of pyrethroid brand names available in Australia are:
- Dragnet™,
- Demon™,
- Torpedo™,
- Tribute™,
- Plasmite™,
- Biflex™.

In Australia, FMC’s Biflex™ (Bifenthrin) has gained registration for barrier sprays on the basis of field trials conducted over a period of many years.

Synthetic pyrethroids are artificial variations of the natural insecticides from Pyrethrum daisies and are sometimes used in household fly and flea control.

They are more expensive than chlorpyrifos. The high potency of synthetic pyrethroid termiticides means that they are effective at lower concentrations. Synthetic pyrethroids can sometimes repel rather than kill termites.

Permethrin has been reported as a suspected carcinogen.

Synthetic pyrethroids are used in the USA where they have been found to repel termites better than organochlorins or organophosphates, but their tendency to break down quickly limits their usefulness in building protection. Some chemical manufacturers hope to use reticulation systems to overcome the problem of short life span. The strong binding tendency of some synthetic pyrethroids to soil means that their effectiveness when applied through reticulation systems is likely to be limited by poor chemical distribution. Currently the APVMA labels Bifenthrin for use through reticulation systems.

Recent American studies pointing to permethrin as the most reliably persistent synthetic pyrethroid are not consistent with CSIRO’s assessment of permethrin in Australia. Permethrin has not gained registration as a barrier spray in Australia. This highlights the problems with unreliable performance of barrier sprays across differing soil and climatic conditions.

Environmental concerns over the high toxicity of synthetic pyrethroids to freshwater and marine life are significant. Bifenthrin is around forty times more toxic to water life than chlorpyrifos. Synthetic pyrethroids were originally developed for pest control in crops where a short life span was an important feature, the exact opposite of what is required for a termite barrier. The need to regularly re-apply these chemicals and the difficulty of achieving full and consistent coverage hamper their long term effectiveness.
2.1.4 Impregnated Chemical Plastics and Geotextiles

A relatively new use of synthetic pyrethroids is the impregnation of plastic building products with termiticides. Two such products are Kordon™ and Plasmite™, is a vapour barrier geotextile impregnated with small quantities of the synthetic pyrethroid deltamethrin. Barrier life of fifty years is claimed, though no mechanism for replenishment is available. Without the deltamethrin, termites can easily penetrate the plastic layers.

2.1.5 Chemical Groups New to the Industry

Products, called Imidacloprid (sold as Premise™ against termites and Termidor™ against termites) has been introduced for remedial and preconstruction termite control. Highly water soluble, it does not bind to the soil like earlier groups and is actively taken up by plants and carried to their sap. Imidacloprid has a double-barrelled effect, lethal at high level, it remains debilitating at quite low concentrations.

A remedial termiticide is the phenyl-urea, Fipronil. Perhaps best known as the active ingredient of Goliath™ cockroach gel, Termidor™ and Fipronil has been used in France and the USA against *Reticulitermes* species and now in Australia for many years.

2.1.6 Measures for Biological Control

Not presently used in new construction, biological control agents are not chemicals, but are whole organisms which attack or repel termites. Bacteria, fungi, nematodes (worms) and viruses have been researched over the last 25 years with only nematodes and fungi finding minor use for remedial management of termites. They are not expected to ever find use as new construction barriers.
2.2 Termiticidal Chemicals and the effects

Environmentalists, health authorities and increasingly the greater community, object to the use of poisonous residual termiticide chemicals because they generally believe their use to be hazardous or unnecessary. In support of this belief the following reason are often given:

The chemicals:
- Can kill non-target organisms,
- Can affect water supplies,
- Can affect water supplies,
- Get into the food chain and can contaminate human food,
- Can affect water supplies,
- Will probably get banned some time in the future thus making retreatment difficult.

Areas subject to regular reapplications can become heavily contaminated and could, in the future, be regarded as intractable waste sites.

In summary, people do not want to endanger their health and the environment. The new buildings of today and tomorrow must be safer to construct, live in and maintain, than the toxin-laden sites of yesterday.
2.3 Termite Barriers (Physical)

2.3.1 How Physical Termite Barriers Work

The fundamental principle of all physical termite barriers is a simple one: install an impenetrable material wherever termites might enter a building undetected, thereby blocking their access and forcing the insects to either look elsewhere for food or to build a visible mud tunnel through which they will attempt to by-pass the physical barrier.

An effective physical termite barrier forces the termites that threaten our buildings, ingenious engineers that they are, to build mud tunnels where there is no existing soil or timber or other material to allow them free access to their food. By blocking undetected access and forcing the termites to build visible tunnels to gain exterior access, physical termite barriers, combined with thoughtful maintenance and inspections (to check for inspection zone obstructions and signs of tunnel building activity) provide an efficient means of termite protection.

Physical barriers, like Rubbermite, thus rely on a few ‘weaknesses’ in the termites’ otherwise impressive armour; namely their inability to survive prolonged sunlight or dryness and their unwillingness to move where they are exposed to predators (ants and birds for example). These weaknesses provide a simple, safe and effective way of managing termites.

There is an added advantage with the physical termite barrier system: the visible mud galleries which the termites build as they try to bridge the barrier provide excellent access points for pest controllers to use the minimum-toxin termite control techniques of dusting and baiting.
2.3.2 Termite Strip Shielding and Ant Capping

As the oldest and most widely used termite barrier system, ant caps on piers and stumps and strip shielding in brick walls provide effective termite protection.

Proper installation, quality materials and regular and thorough inspections are essential with any termite barrier system. This includes ant caps and shielding.

The effective use of ant caps and shielding is, however, very difficult in most slab on ground designs where service penetrations, corrosion and fixing the concrete pose significant problems. Casting the strip shielding into infill slabs overcomes the fixing problem, but the long-term ability of this join to accommodate movement and remain termite-proof is a concern. Completely under laying the slab with strip shielding material to provide a full barrier is impractical, very expensive and unlikely to be completely effective in the long-term.

Effective treatment of slab joints is also awkward, particularly where joints cross or meet perimeter shielding.

Ant caps and shielding in many suspended floor designs are the cheapest way of providing a termite barrier, ant caps and strip shielding do not however provide complete under-floor protection, so good access must be provided for inspections. Good sub-floor ventilation, drainage and natural light are also important when using ant caps and strip shielding to provide termite protection for suspended floors.
2.3.3 Stainless Steel Mesh

Woven Stainless steel mesh is a newer version of the traditional strip shielding concept. More flexible and easier to handle than rigid strip shielding, this system is marketed as “Termi-Mesh” and Woven™ Stainless Steel Mesh and is installed by licensed franchisees and installers.

Being stainless steel the mesh barrier is less likely to corrode than traditional galvanised caps and shielding.

Great care is required to prevent metal on metal electrolysis and ensure that the mesh effectively collars service pipes. Fixing to concrete at slab edges and joints is achieved through the use of special termite resistant adhesives in a process known as **parging**. Parging requires very careful preparation of the surfaces and application of the products if an effective, long-lasting termite resistant bond is to be achieved. While curing, the adhesive cannot be subjected to any movement. The water-based parging material may take more than a day to cure in cool or damp weather. Care is also required on building sites to ensure that the fragile mesh (0.18mm-0.20mm thick) is not damaged or stretched.

The cost of the marine grade (316) stainless steel mesh means that full under-floor treatments with this product are very expensive. Less expensive protection is achieved by using the mesh in conjunction with other barrier systems or the slab itself.
2.3.4 Termite Barriers (Concrete Slab)

Historically, concrete slabs were not regarded as effective termite barriers. Termites can enter through cracks in slabs caused by any number of factors. It is also thought, although there is no scientific evidence to show, that termites can widen hairline cracks in poor quality concrete to gain access to the timber above. This is considered to be especially likely where the concrete is weakened by added water.

While there is on-going debate as to the ability of slabs to remain free of cracks that run the full depth of the concrete and the ability of termites to widen such cracks, there is little doubt that termites can enter through a crack that is little over 1mm or more wide. Of course a 1mm crack is not significant in terms of the cracked slab’s structural integrity, but it will be very significant if termites enter the building through it and attack the house frame or fittings.

Australian Standard 3660.1 takes the view that the risk of a properly compacted, vibrated and cured slab, designed and reinforced in line with AS 2870 and AS 3600, cracking to more than 1mm is a small enough risk to permit such slabs to be employed to provide a minimum level of termite protection.

Thus in July 1995, when AS 3660.1 was released, concrete slabs could be used as termite barriers and the concepts of *partial* and *integrated composite* termite barriers were formalised.

The good performance record of concrete slabs as termite barriers since 1995 has proven that the view taken by Australian Standards in AS 3660.1 is correct. Since 1995, composite treatments have been very popular.

Partial concrete slab barriers may use Rubberrmite and/or other termite barrier system to protect those parts of the footings deemed to be higher risk entry points, namely the building perimeter, slab penetrations and construction joints.
2.4 How Rubbermite Physical Termite Barriers Work

When Rubbermite is placed on strategic positions in the structure termites can not penetrate the crumbled rubber particles. When they try to shift one rubber particle the next rubber crumb fall into its place, providing the sand in the hour glass effect. The termite is encouraged to forage else where in search of a food source.

2.4.1 Features of Rubbermite termite barrier

Rubbermite is made from recycled vehicle tyres which is a major world environment problem. The invention of Rubbermite and its use may help use up this waste product in an environmentally sustainable manner.

2.5 Quality Control

Rubbermite is supplied by Quality Assured Company to ISO 9001:2008 and being CodeMark™ approved has past stringent quality checks and audited by JAS-ANZ.
2.6 Australian Standards Relating to the Control of Termites

There have been several Australian Standards relating to the control of termites.

AS 1694-1974 The Standard for physical barriers used in the protection of new buildings against subterranean termites.

AS 2057-1986 The Standard for chemical soil treatment for protection of new buildings against subterranean termites.


In October 1993, Standards Australia repealed these three Standards and replaced them with AS 3660-1993 which deals with protection of new and existing buildings and termite infestation, detection and treatment.

AS 3660-1993 was not called up into the Building Code of Australia. For building Code Purposes another Standard, AS 3660.1, was developed. AS 3660.1 relates only to new buildings.

AS 3660.1 1995 is the Standard that first recognised concrete slabs that comply with AS 2870 or AS 3600 as termite barriers. AS 3660.1 allowed the integration of Rubbermite with other recognised termite barriers to provide a “partial” or “composite” barrier. This use of these integrated systems is discussed later.

AS 3660-1993 is being updated, it is anticipated that the update Standard will become the relevant Standard for treatment of existing buildings and termite infestations. This revised Standard will be AS 3660.2, and should be released in 2000.

AS 4349.3 relating to timber pest inspections describes minimum requirements for inspection of building to determine the presence and risk to buildings from insects and fungi.

AS 3660.1 1995 is currently being updated. Working drafts of the new 3660.1 are largely the same as its predecessor. These drafts reflect the installation techniques described in this manual.

A third part of the Standard suite relating to termites is AS 3660.3, which describes the evaluation and testing protocols for the assessment of termite barrier systems.
2.7 Accreditation of Rubbermite

Before being accepted for use by building authorities and thus professional architects, drafts people, builders and pest controllers, Rubbermite, like any good building product, had to be fully tested be recognised independent authorities and then appraised, assessed and finally approved and accredited by the appropriate experts and committees. The end result is full recognition of the Rubbermite system as outlined below. This recognition means that Rubbermite can be used with complete confidence as the Rubbermite physical termite barrier system meets the requirements of the Building Code of Australia (BCA) when it is installed in line with the accreditation specifications included in this manual. Rubbermite has gained full accreditation of code mark certificate of conformity issued by CodeMark Australia.
Retainer Walls

1. Plasmite termite barrier sheets are to be adhered together with an overlap of at least 75mm using either Plasmite epoxy, Plasmite Termiticide Sealant or Bostic solvent cement.
2. Plasmite sheet to be adhered to retainer wall to hold into place. Epoxy or “Liquid Nails” glue could also be used (preferred). Overlaps of sheets are a minimum of 75mm and must be either epoxy/sealant joined.
**Complete Under-slab Installation**

1. Plasmite sheets are solvent cemented together to cover entire surface of compacted fill.

2. Plasmite sheets to overhang compacted fill at least 50mm, to cast into pour of concrete slab.

3. Perimeter Plasmite protection is still required.

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*Termites cannot access structure via crack because of Plasmite barrier installed under concrete*
Ant-Capping

1. Post or pier

2. Brickwork and engaged piers

3. Attached piers
NOTES:
1. Same treatment for cavity masonry.
2. At changes in level, the graded stone particle barrier follows the contour of ground level.

BARRIER UNDER TIMBER FLOOR WITH LESS THAN 400mm CLEARANCE

BARRIER UNDER TIMBER FLOOR WITH GREATER THAN 400mm CLEARANCE
Knockout Block

Plasmite termite barrier is placed on top of knockout block and adhered onto slab. Plasmite strip shield is joined with solvent cement glue.
Slab Edge Protection

- Stud wall
- Flashing
- Finished ground level
- Plasmite nailed and epoxied to slab

20mm above finished ground level

- Finished ground level
- Plasmite epoxied and nailed to footing and brick work

Plasmite termite barrier nailed and epoxied to slab

Plasmite termite barrier nailed and parged (epoxied/sealant)

New concrete slab
Slab on Ground Type

1. Brick up Base Slabs

Plasmite termite barrier embedded 50mm minimum in concrete slab

2. Plasmite termite barrier is supplied in 3 metre lengths. It is placed on top of brick work and joined together using solvent plumbers glue or plasmite epoxy/sealant overlapping joins by 75mm. Liquid Nails is placed on brick work also before placing strip shield to assist in holding down if in windy conditions.

3. If rebate boards are used, holes would be punctured through the Plasmite termite barrier. These holes could be patched by either Plasmite epoxy/sealant or solvent cement by gluing a piece of strip shield over the hole.

4. All corners to be done by using Plasmite strip shielding by placing cut out shape then heat 40mm overhang into position.
Boxed-Up Base

1. Double Brick (boxed-up base)
   Plasmite termite barrier is placed on brick and slab in correct position and adhere to slab with Plasmite epoxy or sealant.

2. Plasmite termite barrier is placed in 3 metre lengths and nailed into slab at least 400mm intervals and glued together with solvent cement or epoxy/sealant with 75mm overlaps.

NOTE: Same treatment for cavity masonry.
3. Plasmite epoxy/sealant is then used to seal gap between slab edge and Plasmite Strip shielding. Plasmite epoxy/sealant is placed into spoon/hip at top of strip shield.

4. If honeycombing of slab edge has occurred this is rendered smooth using Plasmite epoxy/sealant at height strip shield is to be placed.
5. Alternative cavity installation method
Pipe Penetration Protection

Plasmite termite barrier “Epoxy/Sealant” between concrete and plumbing/electrical pipes passing through concrete slabs to stop termite entry. Plasmite termite barrier “Epoxy/Sealant” between concrete and concrete as in control joints, dowel joints and key joints in concrete slabs to stop termite entry.
See diagrams below.

**NOTE:** Once pipe is chipped out no dust is to be present at time of applying sealant

- Apply the appropriate amount of “Plasmite” Epoxy/sealant around the pipe penetration.
- Concreters may spoon out around the pipe to allow for ease of application. Refer to
- If no pre-made spoon out has been made around pipe by the concreter, you must chisel out concrete for “Plasmite” Epoxy/sealant application.
- Concrete and pipe must be clean and dry before application of “Plasmite” Epoxy/sealant.
- Apply “Plasmite” Epoxy/sealant to fill complete in spoon out around the pipe to totally seal the gap.
Prefabricated PVC Collar

1. Remove and pipe duct tape and lagging.
2. Position PVC collar at top of pipe and slide PVC collar down the pipe to centre of concrete slab to be poured or to top of mesh.
3. Reapply lagging and seal top of pipe with duct tape.
4. Note that no adhesives are necessary if seal is airtight. Collars are manufactured to fit pipe perfectly with no gaps, still check and apply sealant if pipe is out of shape.
Slab Joints
Control joints, dowel joints, control crack joints, Connolly key joint

Foam backing rod
Plasmite epoxy/sealant to prevent termite access

Foam backing rod
Plasmite epoxy/sealant
Dowel bar

Sealed with Plasmite epoxy as with cracked concrete as well
Control joint

(FULL UNDERFLOOR)

Plasmit PVC cast into pour of slabs

Vapour barrier

Plasmit termite barrier epoxied around steel peg

Plasmit PVC U-shaped
Plasmite Termifudge Installation Examples

Application Slab cut outs

Install/apply anywhere between two termite resistant materials with overlap.

Application to Cavity’s

Another termite proof material can be used to cap of bricks/blocks

Or link with termite resistant capping on

Frame

Or stop here on slab.
Retainer Wall Application, Brush/Roller/Spray

All Mortar perps covered or do entire surface

Slab edges not compliant

Slab edge coated with Plasmite Termifudge
Termites cannot ingress up slab edge
Application of Plasmite Termifudge can be used to seal between any two or more termite resistant materials. For example stainless steel mesh to slab edge or Termifilm or Plasmite Blanket to slab edge. Or it can be applied directly to a non termite resistant material as protection etc. such as posts, beams, joints. It can be applied to rusted, corroded or damaged non-compliant antcapping or on barrier installation where repair is needed. This product is not limited by an installation method it is for the approved applicator to explain how the product will resist termites attack to where it is applied.