

HOME OWNER'S GUIDE FOR

# Termite Management

This guide has been produced  
by Master Builders Australia in the  
interests of consumer information and education

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**Master  
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ASSOCIATION



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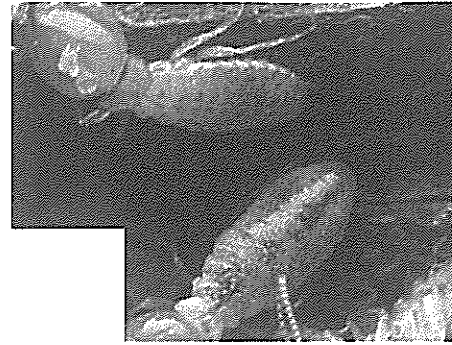
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This guide has been produced by Master Builders Australia in the interests of consumer information and education.

Each State and Territory based Master Builders Association has contributed to and endorsed this guide. Special thanks are given to the Queensland Master Builders Association for its assistance with the development of this guide.

The information contained within has been prepared in good faith and is intended for use by new home buyers to understand the options now available for termite management in new buildings. Home owners are advised to check with the manufacturers of each system for detailed information on limitations and ongoing maintenance.

# Termite Resistant Materials



If termite resistant materials are to be used, the Building Code of Australia requires, as a minimum, only Primary Building Elements (PBEs) to be resistant to termite infestation. The PBEs of a building are generally the main structural components and may include the roof structure, walls that support a load (horizontally and vertically), beams, columns, floor structures and stairs.

Any coverings or claddings over the structural elements, doors, skirting boards, window sills, etc are not considered to be PBEs.

Materials that are deemed resistant to termite attack includes:

- Steel
- Concrete
- Masonry
- Fibre-reinforced cement
- Many naturally termite resistant timbers such as ironbark and cypress (as listed in Appendix A of AS 3660.1)
- Preservative treated timber

As the legislation requires only the PBEs to be termite resistant you need to be aware that other timbers or any material containing cellulose - their principal food - will remain susceptible to attack. These materials could include the contents of buildings such as built-in cupboards, skirting boards, furniture, some carpets, fabrics, packing cases and other similar materials such as electrical cables, plastics and other softer materials.

## WARRANTY

Some home warranty insurance schemes may require additional measures over and above the minimum requirements of the Building Code of Australia.

**Home owners should ensure that regular inspections are carried out and that a record is kept of the inspections.**

## OWNER'S OBLIGATIONS

You should ensure that conditions around the home are kept dry with proper surface drainage maintained. The ground surface needs to be kept graded to ensure moisture does not pond or accumulate in any area.

It is important not to stack timber under the building or up against the external walls as this can allow undetected entry.

**Regular inspections should be carried out by trained persons such as a licensed pest controller or accredited pest inspector. A record of these inspections should be kept by the home owner as proof of this on-going maintenance.**

## Chemical Soil Management System (Continued)



All chemicals have a limited life expectancy which can vary. All limitations are specified on the product labels. The current method of providing retreatment of the area under the slab after these periods of time when the chemical has degraded, is to drill through the slab and reinject the chemical. This retreatment method can be inconvenient and expensive and would always be required when termite infestation occurs. An alternative to this system is a chemical reticulation system, which allows the chemical to be pumped under the slab without drilling.

### WARRANTY

Providing the chemical used is approved by the NRA and applied strictly in accordance with the label conditions, the home warranty schemes in each State may cover home owners for termite attack within the statutory warranty period providing home owners can establish that regular inspections and/or ongoing maintenance was carried out. After the statutory warranty period, the home owner will be responsible for rectifying any damage by termites, in the absence of any other warranty cover.

### OWNER'S OBLIGATIONS

Home owners will be responsible for the ongoing maintenance of the building and to ensure regular inspections are carried out. The home owner will also be responsible for the ongoing retreatment of the chemical barrier under the slab.

## - Hand Spraying Under Suspended Floors

This method would be used only where there is difficult access to the area under a suspended floor, including clearances less than 400mm.

### WARRANTY

Any warranty for suspended floors will rely upon regular inspections by trained persons and since it may be difficult to gain access to inspect some areas, the continuation of the warranty may be difficult. A warranty may be available for this situation, however this is only to respray the area and eradicate the termites, not to repair the damage caused. You should check with your pest controller or builder first about warranties for chemical barriers.

### OWNER'S OBLIGATIONS

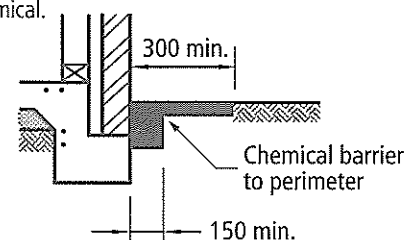
Regular inspections will be required and access maintained to the under floor area.

## - Perimeter Treatments

The perimeter treatment of the building can be achieved using approved chemicals either by injection with rod equipment at 300mm centres or by digging a trench 150mm wide and down to the top of the footing and treating the trench and the backfill material with the chemical.

A horizontal barrier of 300mm wide is also required at the surface level.

This treatment is usually done by the pest controller just before the house is handed over to the owner.



## Chemical Soil Management System (Continued)



Where concrete driveways and paths about the building, the same consideration for an under slab treatment is required; i.e., **the retreatment of the perimeter system.**

It is important not to disturb the chemical treatment by installing gardens, paths or introducing other untreated material such as soil or turf. Any disturbance of the perimeter treatment will necessitate a retreatment of the chemical treatment. The use of chemicals for perimeter treatments rely heavily on the home owner to maintain the continuity of the barrier.

### WARRANTY

Pest controllers are unlikely to provide a warranty for any long period of time for perimeter treatments and any warranty will be subject to the home owner carrying out regular inspections.

### OWNER'S OBLIGATION

Home owners should ensure that conditions around the home are kept dry with proper surface drainage maintained.

It is important not to stack timber under the building or up against the external walls as this can allow undetected entry.

Regular inspections must be carried out by trained persons. The home owner will also be responsible for the ongoing retreatment of the chemical barrier at maximum intervals noted on the registered chemical labels.

## - Reticulation Systems

A reticulation system is a more convenient means of retreating under the slab area, through an approved distribution system placed prior to the installation of the slab.

The reticulation systems must satisfy the performance requirements of the AS3660.1 - 1995, and should be accredited by a recognised body.

All chemicals used in reticulation systems must gain the approval of the NRA for use in the system.

The requirements for reticulation systems are no different from any other method of applying chemicals apart from the ease of retreatments.

### WARRANTY

Home owners should check the warranty conditions first to ascertain the extent of their on-going commitment to ensure the continuation of the warranty.

### OWNER'S OBLIGATIONS

Annual inspections by trained persons will be required together with the maintenance requirements for all other termite barriers. The continuation of the warranty will depend upon annual inspections being obtained and providing a favourable report.

## Graded Stone Management System



Graded stone must conform to particular performance criteria as set out in the termite standard. Granite stone from specific quarries provides the performance characteristics required.

The graded stone termite barrier system works on the principle that the particles, which range in size from 1.7mm to 2.4mm and have particular shape characteristics, are placed so as to block termite access into the building.

The termites cannot find a path through the layer of stone as the particles are too hard for them to eat and too heavy to move out of the way, while the voids between the particles are too small for the termites to pass through.

Current specifications are available for all areas in Southern Australia. The larger termites found in the northern areas require a different blend of particle sizes to block their movement. Builders and local authorities should check on the availability of approved products in tropical areas. Tropical installation methods are similar to subtropical and temperate designs.

The manufacturers of the graded granite recommend the use of a full layer under slabs, however treatment of the penetrations and perimeter in conjunction with the correctly designed slab (AS 2870) is available as a cheaper option.

Particular attention must be given to the installation of the management system to prevent contamination of the graded stone by other materials such as wood or clay during the installation.

Perimeter management with graded stone can be achieved in a number of different ways. The final cost for termite management using graded stone will depend upon the chosen installation method selected.

### WARRANTY

**Manufacturers should be approached to obtain full details of warranties provided.**

Where termite attack occurs within the statutory warranty period, the various home warranty schemes in some States may cover home owners for termite attack providing home owners can establish that regular inspections and/or ongoing maintenance was carried out.

### OWNER'S OBLIGATIONS

**Regular inspections are highly recommended but not mandatory. The general requirements for termite management should be followed for all buildings.**

## Chemical Soil Management System



Chemical systems can be used to treat both the under slab area and the external perimeter of the building. The chemicals will prevent the termites from gaining access through the chemical into the building, allowing them to be detected with regular inspection.

Chemicals are available in a number of forms and require strict procedures for the application and maintenance of the barriers. Concerns about the possibility of environmental contamination has led to the banning of the previous chemical which provided long term treatment. Any new chemical will be unlikely to provide such long-term durability and some form of re-application may be necessary.

All chemicals must be approved by the National Registration Authority for Agricultural and Veterinary Chemicals (NRA - National Registration Authority). The labels for such chemicals are approved by the NRA and stipulate the correct usage of the chemical.

The preparation of the site is important when applying chemicals to ensure the best distribution and penetration for the chemical. Particular attention should be given to areas behind retaining walls to ensure a complete vertical barrier is provided against the building.

There are a number of ways by which approved chemicals may be applied to the under slab area, the area under a suspended floor and to the perimeter of a building. These are:

- Hand spraying by a licensed pest controller to the under slab area,
- Hand spraying by a licensed pest controller under a suspended floor area,
- Rod injection or trenching to the perimeter of the building, by a licensed pest controller,
- Installation of an approved reticulation system under the slab by a suitably licensed installer.

The installation of a chemical barrier does not negate the need for regular inspections and in fact due to the lower durability of the new chemicals, most of the providers of chemical barriers will insist on annual inspection. Areas north of the Tropic of Capricorn will also require more periodic inspections due to the nature of the voracious termites present in tropical areas.

Because other chemicals are being tested all the time, home owners should obtain information from the builder or licensed pest controller about the durability of the chemical, the frequency of any re-treatments and any warranty conditions which may apply.

Several chemicals have been approved by the NRA and should be used strictly in accordance with the conditions noted on the label of each container. These conditions may vary in each State, depending upon the soil types and other climatic influences. Pest control operators must only use these products where the particular use is stipulated on the label.

Home warranty insurance schemes can vary from State to State and product warranties can vary from pest controller to pest controller. Home owners should check the information before using chemicals.

The following sets out the important features and owner's obligations for each method of chemical treatment:

### - Hand spraying to Under Slab Area

Hand spraying of chemicals to the under slab area is carried out prior to the placing of the concrete slab. This is a convenient method for builders to use, however the pest controller must ensure that the strict health and safety conditions are followed in relation to the installation of the vapour barrier to the slab.

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## Concrete Slabs as a Barrier

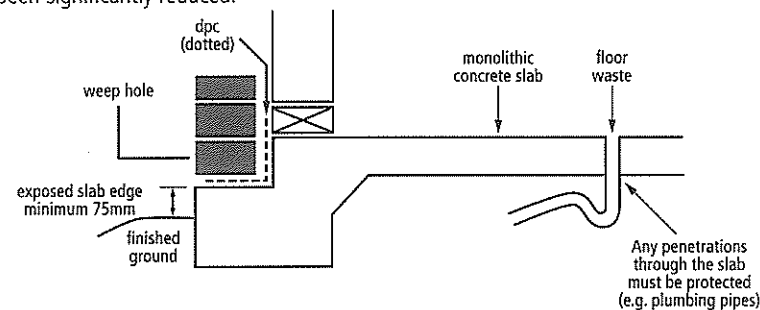


For concrete slabs to form part of a termite barrier, the slabs need to be constructed in accordance with the Australian Standard AS3600 - Concrete Structures or AS 2870 - Residential Slabs and Footings. The majority of slabs designed by structural engineers will comply with the latter requirements.

Termite entry may occur at the slab edge, through cracks, joints and imperfections in the concrete or around service pipes through the slab. Particular attention should be given to the control of shrinkage cracking by the engineer when designing the slab.

The termite standard now allows the use of an exposed slab edge as a form of perimeter treatment. This exposed slab edge must show a minimum of 75mm of concrete. This exposed edge will not stop the termites from gaining access into the building, however the termite mud tunnels will be noticed with regular inspection after which appropriate action can be taken to destroy the nest. The potential for termites to build these mud tunnels up the side of the exposed slab increases, as the climate becomes more tropical.

From the limited evidence available, it appears the majority of infestations occur at the perimeter of the building. As a result of the introduction of Australian Standards such as AS2870 and AS3600, the likelihood of major cracking has been significantly reduced.



Because most concrete slabs have some penetrations through them, these must be protected by using one of the other approved materials or methods of management. Particular attention should be given to any penetrations or control joints, since access to these areas is extremely difficult later.

### WARRANTY

There is no product warranty for concrete slabs when used as part of the termite barrier. Builders will have complied with the standard and the Building Code of Australia providing the slab is designed in accordance with AS 2870.

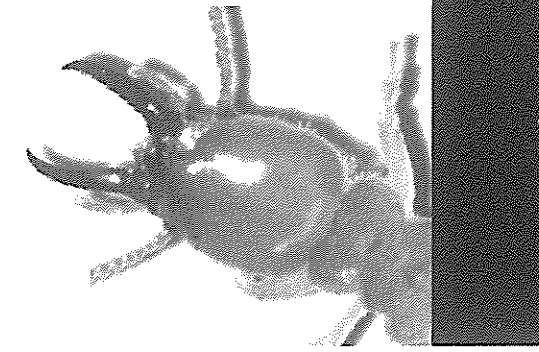
The home warranty insurance schemes in some States may cover home owners for termite attack within the statutory period, providing home owners can establish that regular inspections and/or ongoing maintenance was carried out.

### OWNER'S OBLIGATIONS

Home owners should ensure that conditions around the home are kept dry and garden beds, paving, turf or any covering does not bridge or cover the exposed edge and that a minimum of 75mm of exposed edge is maintained. If the edge is to be covered then another form of perimeter management system should be installed.

Regular inspections must be carried out by trained persons.

## Stainless Steel Mesh Management System



Stainless steel mesh systems are made from finely woven, marine grade stainless steel mesh and are placed either fully under a slab or alternatively, used around penetrations and the perimeter of slabs.

The use of stainless steel mesh as a physical management system will not kill the termites, but it will force them out into the open for detection.

The grid pattern of the mesh is fine enough to not allow termites through and is tough enough to prevent them from chewing through it. Being marine grade stainless steel, it should not be affected by the corrosive nature of concrete and some ground conditions.

A strip of marine grade stainless steel mesh is fixed to the perimeter wall cavities and service penetrations in such a way as to prevent termites coming up through the cavity. This becomes a permanent barrier and works in much the same way that an insect screen does. It is fitted by trained installers during the early construction of the building, or as specified by the manufacturer.

The mesh is tightly locked into place during the manufacturing process by intersecting wires that can't be tampered with, thus ensuring lifetime effectiveness. It has been proven by CSIRO not to let even the smallest termite through.

The mesh's flexibility means that it can be formed to all the contours and irregularities often found in a construction environment and minimises the possibility of termites finding a passageway, as might happen with more rigid materials. It is held in place by a specially formulated bonding cement and will not delaminate. It can be jointed without solders, sealants or glues, giving a permanent termite resistant seam.

Because of the nature of termites, the potential points of entry are usually out of sight. It is uncommon for you to actually see the stainless steel mesh after installation. This is why it is important for the mesh to be installed in accordance with the manufacturer's specifications and recommendations.

This System can be adapted to all types of building construction.

### WARRANTY

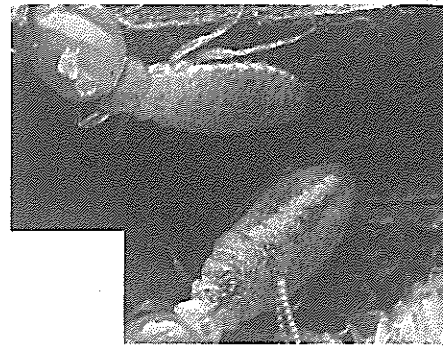
Manufacturers should be approached to obtain full details of warranties provided.

Where termite attack occurs within the statutory warranty period, the various home warranty schemes in some States may cover home owners for termite attack providing home owners can establish that regular inspections and/or ongoing maintenance was carried out.

### OWNER'S OBLIGATIONS

Regular inspections are highly recommended but not mandatory. The general requirements for termite management should be followed for all buildings.

## General Requirements for Termite Management (Continued)



This guide is part of the process of consultation between you, (the home owner), the builder, the pest controller and the designer (if applicable).

### COST OF SYSTEMS

The cost of each method will vary depending upon the management system provided and the durability of the products. Whilst most builders will recommend to you the more cost effective option, you will need to be aware of the long term features of the systems and the obligations placed upon you as a home owner for the maintenance of the system.

You should consult with your builder for more accurate information in your area.

### NOTICES AND CERTIFICATES

There is a requirement of the BCA for your builder to place a durable notice on the home in a prominent location such as the meter box. This is also recommended when using termite resistant material. This will usually be done by the builder prior to handing over possession of the building.

This notice will describe the particular termite management system used, the date of installation, the importance of regular inspections and the need for regular maintenance to be carried out on the home. Where a chemical barrier is to be used, the notice will also indicate the life expectancy of the chemical used.

Some states will require a form of certificate to be provided for some of the barrier systems prior to the completion of the home as evidence that the system was installed in accordance with the manufacturer's requirements and/or the Australian Standard. Not all forms of barrier require or need a certificate.

### REGULAR INSPECTIONS

Regardless of the system used, it is extremely important that regular inspections be carried out as part of your ongoing maintenance of the home.

Inspections by competently trained persons will ensure that the barriers have not been breached by termites. For some of the methods, annual inspections will be a mandatory requirement of the warranty conditions. However, inspections should be carried out at least every 12 months and even more frequently (3-6 months) in high risk areas.

All barriers can be bridged by building garden beds, attaching other structures to the building or by placing timber up against the home.

**The home owner will be responsible for ensuring annual inspections of the home are carried out by trained persons.**

It is strongly recommended that home owners retain a copy of the written report of every inspection and re-treatment. *Unless you, the home owner, can show that regular inspections have been carried out, then any rectification will be your responsibility.*

## Termite Shielding for Suspended Floors



Timber floors have traditionally relied upon ant caps and termite shields to provide a termite detection system to the building. Timber floors are still able to be used economically and will continue to provide design solutions for different sites.

In many parts of Australia, timber floors are popular and this form of construction uses foundation walls over strip footings to provide the required clearance above the ground. The fact that the floor is above the ground will not prevent termites from attacking any timbers. Termite shields are used to provide a means of detecting termite activity as they move up the subfloor walls and posts.

Termite shields can be made from a number of different materials which are considered durable and able to be installed in such a way that termites are forced out into the open for detection. These shields will not prevent termites getting into a building, however **regular inspections** will detect the termites trying to get around the shielding.

Termite shields are usually placed on top of stumps, piers and foundation walls at a level directly below the lowest floor timbers.

An important feature with timber floors and termite management is the clearance between the ground and the lowest floor timbers. Adequate clearance should be maintained to allow trained inspectors to gain access to the sub-floor area and carry out regular inspections of the termite shields and sub-floor walls.

Where reasonable access cannot be provided, a complete chemical or physical barrier should be installed in the subfloor area.

In some bushfire prone areas, the requirement for protection from sparks and embers may conflict with the requirements for termite control. You should discuss details with your builder or designer to ensure that ventilation openings are sufficient and physical barriers are not bridged.

### WARRANTY

There is no product warranty for termite strip shielding when used in suspended timber floor construction unless the manufacturer or installer specifically specify their own warranty.

The home warranty insurance schemes in some States may cover home owners for termite attack within the statutory warranty period providing home owners can establish that regular inspections and/or ongoing maintenance was carried out.

### OWNER'S OBLIGATIONS

**Home owners should ensure that conditions under elevated floors are kept dry with adequate cross ventilation maintained.** The ground surface needs to be kept graded to ensure moisture does not pond or accumulate in any area. It is important not to stack timber under the building or up against the subfloor walls as this can allow undetected entry.

Home owners may choose to use one of the other physical or chemical barriers as an additional form of termite management.

Regular inspections should be carried out by trained persons such as a licensed pest controller or accredited pest inspector. A record of these inspections should be kept by the home owner as proof of this on-going maintenance.

## Your New Home



### TERMITE MANAGEMENT

Your new home is one of the most significant investments you will make during your lifetime.

Just as you would like to see any investment protected, your new home requires management against termite attack. Many millions of dollars are spent each year by home owners rectifying damage caused by subterranean termites (termites forming nests in the ground).

Termites have existed for approximately 100 million years. In Australia there are about 30 species which have been shown to create some significant damage to buildings. Although they are commonly referred to as white ants, termites are, in fact, closely related to the cockroach.

Termites will eat timber and most materials containing cellulose - their principal food - and this could include the contents of buildings such as built-in-cupboards, skirting boards, furniture, some carpets, fabrics, packing cases and other similar materials.

A termite attack is usually initiated from a nest located in the ground outside the building. In some cases, a nest can be located directly under the building from where termites may attack through any penetrations or openings in the slab or around service entry points such as plumbing or electrical pipes.

Damage from termite attack can be reduced to a minimum, if not eliminated by the use of some proven methods and regular maintenance by you, the home owner.

All new buildings (including extensions) in Australia are now built in accordance with the Building Code of Australia (BCA). The BCA requires all Primary Building Elements (PBEs) to be either managed against attack by termites or built with termite resistant materials. It should be noted that the PBEs are only structural elements of the building, including the roof, ceiling, floor, stairway or ramp and wall framing including bracing.

Your builder will use one, or a combination, of the methods described in the Australian Standard AS 3660.1 - 1995 - Protection of New Buildings from Subterranean Termites to provide a management system for the structural members (PBEs) of your home. Alternatively, the builder may use termite resistant materials as called up in the Building Code of Australia (BCA).

This guide will enable you to understand each of the methods available, the warranties available and most importantly, the ongoing obligations for you, as the home owner, which will ensure a reduced risk of termite attack for the lifetime of the building. More detailed information is available from the Australian Standard AS3660.1 - 1995.

When making any decision about termite control or in assessing the system proposed by your builder, you should consider the following guidelines:

- The cost effectiveness of the barrier system over the life of the building
- The life expectancy and effectiveness of the barrier
- Any warranty or insurance cover supporting the installation
- The requirements for maintenance and any retreatments necessary
- The effect of the system on the environment and occupants
- Any effect the choice of system will have on the future resale value of your home

**Termite management will be your responsibility!**

## General Requirements for Termite Management



The Building Code of Australia and the Australian Standard AS 3660.1 - 1995 provide for the minimum level of treatment for buildings and therefore it is important that home owners are aware of the fundamental requirements for termite control.

Where new buildings are to be constructed in areas of higher termite risks, additional methods may need to be used to provide an acceptable level of treatment. (*Local Authorities, Pest Controllers, Government Departments and building certifiers would be aware of most areas with high levels of termite risk.*)

### SITE PREPARATION

Careful attention should be given to the preparation of the site to help reduce the risk of attack by termites. An inspection of the area around the building site should be carried out before building starts and any termite nests eliminated, particularly in rural areas and areas north of the Tropic of Capricorn. All timber debris, tree roots and stumps - termite food - need to be removed from the site.

Most termites like dark, moist conditions and areas with fungal growth. Careful attention needs to be given to any areas around or under the building which might allow moisture to accumulate. Site drainage and sub-floor ventilation where applicable is extremely important and home owners should ensure that these areas are not hindered in any way.

### Additions to Buildings

Termites can use various ways to enter a building. Any additions to homes after completion also need to provide a continuation of barriers. Structures such as pergolas, decks, carports, verandahs and steps may -allow undetected entry of termites into the main building.

The fundamental concept of a termite management system relies upon the provision of a complete and continuous barrier to bring the termites to a position where they can be detected by regular inspection. Where different forms of construction are in use, different methods of termite barriers may need to be used.

### COMPLIANCE AND APPROVALS

Most home warranty schemes, whether Government or privately operated, will require the builder to comply with the legislative requirements of the Building Code of Australia. As mentioned before, this will mean using one or more of the methods in the Australian Standard, other approved/certified methods, or building the PBE out of termite resistant materials.

It is important to understand that if termite resistant materials are used for the loadbearing elements with no other form of termite control, the non-loadbearing elements and the contents of the home may still be susceptible to termite attack.

Local Authorities have a discretion as to whether or not some of the methods used are acceptable. Some methods such as termite shields or 'ant caps' do not require prior Council approval before they can be used, however, all methods will need to be included in the plans for Council building approval.

Because there are now a range of different methods to choose from for termite management, decisions will need to be made by you, the home owner, in conjunction with the builder as to the method(s) used.

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## Further Information

For further advice on how you may obtain more information on any of the methods or other requirements referred to in this booklet, contact the following organisations:

Information on the Termite Standard:

**Standards Australia**  
(Country Callers) Free Call

Ph (03) 9693 3555  
1800 672 321

Information on the use of Timber:

**Timber Advisory Council**  
180 Whitehorse Road, Blackburn 3130

Ph (03) 9877 2011

Information on Barrier Systems:

Can be obtained directly from the Manufacturer



9 336870 001221

# 9411 4555

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