



Termites? Change your mindset

Jerry Tyrrell offers advice on how clever builders keep termites out of their projects and what they tell their customers on handover.

CPD Academy is a series of 'lessons in print' to help you improve your trade skills and business know-how so that you can keep your edge in today's competitive market. Sydney consultant Jerry Tyrrell, a co-founder of Tyrrells Property Inspections, shares his insights into the basic principles of building practice – what to do, what not to do and where to go to find out more.

Termites are destroying the building!
We've been attacked by termites! Oh God, termites! You can never get rid of white ants. We need to nuke the termites!

Heard all this nonsense before? Wondered why it didn't make sense? Part of the problem facing our industry is 50 years of misinformation and exaggeration about these clever, predictable insects and how easily they can be kept out of properly built structures.

I have a little experience in this area. In the early 1990s I represented the then BWIU (Building Workers Industrial Union of Australia) when the new termite Standard (AS 3660 *Termite management*) was created. I also chaired the Standards Australia committee for AS 4349.3 *Timber pest inspections*.

Simple truths

My intention in this article is to provide the facts to allow builders to discard obsolete thinking about termites once and for all.

To do this I need to outline a few truths:

- Many of the practices promoted by pest control and chemical companies are not based on scientific research or statistically verified risk.
- Designers, builders and manufacturers can eliminate the risk of damage by minimising

points of concealed entry and using termite-resistant materials.

- Consumer awareness is essential in minimising damage from undetected termite entry.

Know your enemy

Reinforced concrete slabs make great barriers against termites. Just be careful to protect penetrations, joints and edges you can't see.

In fact, I have *never* seen termite entry through a compacted, reinforced slab.

Activity depends on colony size – the older/larger/closer the colony the more likely the damage.

Once started, activity accelerates over summer and slows in winter and can really get going if not detected after 12 months.

Some experts suspect that the most destructive species is selective and...

- prefers Australian native timbers, especially Tasmanian Oak (Mountain Ash);
- is attracted to, and will find, rotted timbers;

Typical residential building maintenance costs over 100 years	
Termites	\$3,000
Painting	\$65,000
Gutters & downpipes	\$11,500
Wet rot	\$25,000

- enters timber mainly through the end grain; and
- will work upwards avoiding tension (midspan stresses) of timbers so the structure will not collapse on itself.

Prevention costs less

Good building practice usually costs much less than the cost of future anxiety and the cost of managing an unlimited risk of concealed entry.

Termite-resistant materials are also resistant to wet rot and borers. Modern masonry, especially cement mortars, resists vertical termite entry (except at weepholes, straight joints and joints to slabs).

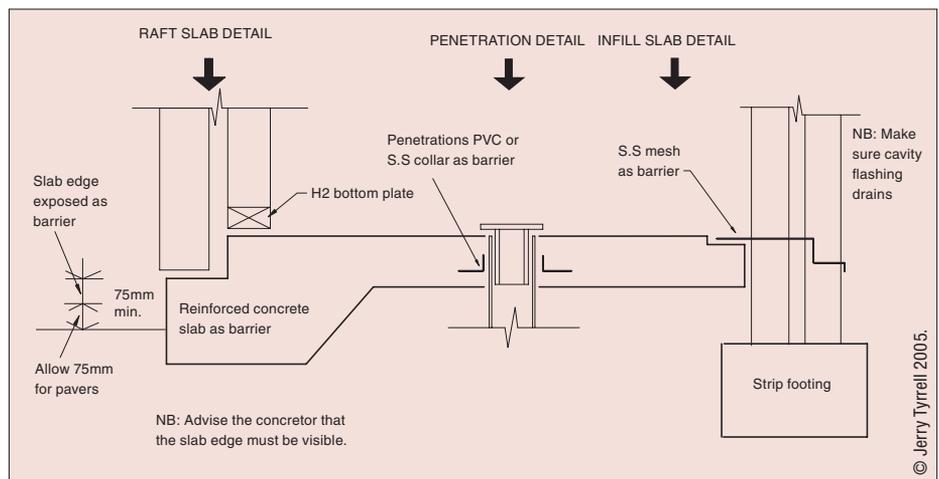


Diagram 1: Typical concrete slab detailing to protect against termites.

The cost of termite damage and control over the life of a typical residential building is usually less than 5% of the cost of all other maintenance/repair/replacement over 100 years.

What you don't get told

In the tens of thousands of property inspections I have carried out, I've rarely found a badly termite-damaged building.

Only 5% of main building structures are termite-affected, and only 0.3% of main building structures have moderate to severe damage.

Pest control organisations wrongly quote figures of upwards of 23% – based on damage to trees, timber in ground, fences and rundown garages and sheds.

You can expect to see termites in about one-third of properties – that is, in trees, fences and sleepers, which is where termites are meant to be. Some of these termites will not damage house timbers.

In fact, most species of termites will *not* damage buildings. Only two species cause extensive economic damage to buildings in NSW.

What can builders do?

Termite management is not rocket science: most of it is common sense.

If builders and designers want to eliminate expensive damage they should promote termite-resistant materials such as concrete, masonry, steel or treated/durable timbers.

Even if you don't use these materials, you can still reduce concealed termite entry by:

- Removing stumps and roots, and never leaving timber/cellulose rubbish or formwork under a building.
- Keeping the edges of slabs visible where possible. Tell the concreter the edges must be visible with a straight, clean face.
- Protecting joints and steps in slabs on ground with stainless steel mesh.
- Getting advice on how to protect complex joints such as those between new work and an existing structure. ➤



Know your enemy and you will conquer it!

WHAT YOU NEED TO TELL BUILDING OWNERS AT THE END OF THE JOB

At handover, I recommend you tell your customers something like the following...

"We have used a combination of termite-resistant materials, physical barriers and access to help you detect termites when they enter your building and minimise undetected termite damage to your property.

These strategies include:

1. Termite-resistant materials such as:

- Reinforced concrete slabs
- Steel framing
- Treated or Class 1 timber framing
- Brick, block, aerated autoclave concrete

2. Clearance or isolation from ground:

- At least 50mm of the edge of concrete, pavers grass or soil
- Slab visible above finished level of post and stair bases
- Minimum 400mm to underside of ground floors and ground floor structures

3. Antcaps/penetration protection to:

- All service pipework through slabs
- Joints in slabs
- Masonry walls supporting suspended floors

4. Access to:

- Roof voids
- Subfloor

- Behind basement walls
- Voids under stairs/landings/porches
- Edges of antcaps
- Voids via removable panels/skirtings

Even if we carefully install the above, termites may still enter your building or be present in your yard. That's why it is essential that you properly maintain and inspect all your termite protection regularly.

We do not advise:

- Building gardens and planting trees next to the structure
- Concealing or covering (including rendering/patching or cladding) the concrete slab edges
- Storing timber/firewood under or against the building
- Using untreated timber landscape timbers

We do advise:

- Annual timber pest inspections
- Installing bait monitoring stations around the building if you have concealed untreated timbers such as Radiata Pine or Oregon
- Requesting your neighbours or the appropriate authority to assess suspicious trees on adjoining properties for termite nests
- Seeking advice from a reputable pest control organisation if you ever detect termites."

- Protecting penetrations through slabs-on-ground with PVC or stainless steel collars.
- Providing access under suspended floors, behind basement walls and into roof and understair spaces.
- Providing more ventilation than required, that is, at least one vent every metre.
- Draining subfloor areas and behind basements, and filling hollows in the surface of soils/rock where water can pond.
- Telling consumers what they are responsible for after handover.

Builders who know how to build properly keep out termites, save money and have less worry. Make sure you review our list of Timber Pest Checks at www.tyrrells.com/reports/maintenance.php ■

Please email your thoughts or experiences on any building issues to jtyrrell@tyrrells.com