A Code of Practice

For Prior to Purchase
Timber Pest Inspections

1st Edition
December 2011

AUSTRALIAN ENVIRONMENTAL PEST MANAGERS ASSOCIATION LTD

Prior to Purchase Timber Pest Inspection

CODE OF PRACTICE

Warning and Disclaimer: While every effort has been made to ensure that this Code of Practice is complete and accurate, no warranty or fitness is implied. The information provided is on an 'as is' basis. Neither the authors nor any persons that contributed to the development of this Code of Practice will accept any contractual, tortious or other liability whatsoever in respect to the contents of this Code or any consequence arising from its use or representations made in relation to it.

ISBN

Acknowledgements

We gratefully acknowledge the contribution and support of the following in the preparation of this approved Code of Practice:

Australian Environmental Pest Managers' Association Limited (AEPMA)

The Working Party

Shane Clarke – Principal Writer
Dr Don Ewart - Writer
Keith Farrow – Writer

The Drafting Committee

Chaired by: Shane Clarke - Pestforce
Terry Allen - Australian Institute of Conveyancers
Dr Don Ewart - Consulting Entomologist
Keith Farrow - Rapid Training;
David Gay - AEPMA President
Geoff Hawes - AEPMA Past-President
Angus Kell - Archicentre
Stephen Koelewyn - Ausinspect, representing the Institute of Building Consultants
Brian Langenberg - Westate Pest Control
Steven Munchenberg - Australian Bankers' Association
Malcolm Trotter - Pink Services.

The committee would like to thank the following organisations
which provided comment on the first draft document:

Consumer Affairs Victoria
The Australian Bankers Association Inc.
The Law Society of New South Wales

Contents

1. Preface

A Prior to Purchase Timber Pest Inspection Report (hereafter 'Report') is designed to assist potential property purchasers in making an informed purchase decision. For this reason, the Report must be obtained before a purchaser commits to the purchase. This Code of Practice is an initiative of the Australian Environmental Pest Managers' Association Ltd (AEPMA), and is intended to document quality industry practice by establishing benchmarks for the Timber Pest Inspection Industry. Australian Standard AS4349.3 sets a minimum standard for visual timber pest inspections as part of the building inspection group of standards. This Code of Practice delivers additional information to Clients to assist in their purchasing decisions. It establishes a benchmark of pest management industry practice for Prior to Purchase Timber Pest Inspection.

The objective of this Code of Practice is two-fold. First, it aims to set an achievable outcome for the Timber Pest Inspectors seeking to fulfil the reasonable expectations of the Client. Second, it aims to inform Clients to ensure that realistic expectations are set. Disputes have been problematic in the area of timber pest inspections due in part to expectations of Clients not being met.

A Prior to Purchase Timber Pest Inspection has limitations regarding access as it is normally performed for a Client who does not own the property. Limitations in access to both the property and property history are problematic. Furthermore, timber pests and the damage they cause is, by its very nature, often concealed and may only be detected by invasive and probing techniques. The opportunity to use these techniques is minimal on a Prior to Purchase Timber Pest Inspection. Following the initial survey, recommendations for further access requirements to allow more specialist tests may be made. Further tests may be required to provide more complete information and so reduce the risks to the Client.

Timber pest activity is not static. Prior to Purchase Timber Pest Inspections do not in any way prevent pest infestation and timber pest activity may begin after the inspection. Non-detectable timber pest activity and damage may be present at the time of the inspection. This can result in timber pest activity or damage to the property being found after inspections are carried out. Timber pest infestation can occur rapidly. Thus a Prior to Purchase Timber Pest Inspection has significant limitations, and this Code of Practice will help to clarify the expectation of both Timber Pest Inspectors and Clients.

This Code of Practice:

- Requires and specifies the use of some timber pest inspection tools.
- Defines levels of experience, training and insurance cover for Timber Pest Inspectors
- Has been developed to benefit prospective property purchasers, Vendors, Timber Pest Inspectors and those concerned with the transfer of real estate. All stakeholders are encouraged to adopt this Code of Practice.
- Provides guidelines against which a Prior to Purchase Timber Pest Inspection can be measured.

2. Aims

The aim of this Code of Practice is primarily to benchmark a quality practice for a Prior to Purchase Timber Pest Inspection and Report.

In supporting this aim, this Code of Practice seeks:

1) To inform potential property purchasers to allow them to make an informed decision regarding the timber pest status of the property.

2) To assist purchasers in selecting a Timber Pest Inspector.

3) To assist the purchaser by:
   a) providing industry practice and outcome requirements for a Prior to Purchase Timber Pest Inspection;
   b) providing risk assessments and relevant cost estimates;
   c) setting levels for the required training and experience for the Timber Pest Inspector;
   d) setting a requirement for insurance cover;
   e) defining the tools required to adequately carry out a Prior to Purchase Timber Pest Inspection;
   f) providing information on other tools and Specialist Timber Pest Inspections available; and
   g) providing education to both the consumers and the providers of the timber pest inspection service.

4) To assist the Timber Pest Inspector by:
   a) providing a clear set of guidelines;
   b) harmonising expectations; and
   c) setting a requirement for insurance cover.

3. Document Administration and Review

This Code of Practice was initiated by AEPMA, the national peak professional association for Timber Pest management in Australia. A working party has been appointed from the Pest Management Industry and relevant stakeholders. This working party is responsible for the development and ongoing administration and review of this Code of Practice and is conducted in accordance with guidelines agreed by the national board of AEPMA. This Code of Practice remains the property of AEPMA which publishes this Code of Practice online. The latest version is available via http://www.aepma.com.au

4. Glossary

This Code of Practice is written in plain English. The meaning of any words not included in this Glossary should be found in any standard Australian English Dictionary.

AEPMA
The Australian Environmental Pest Managers' Association Limited; the national peak professional association for Timber Pest management in Australia.

Borescope
A tubular optical device which is used to view timbers or areas of a building that would otherwise not be accessible for visual inspection. The use of a borescope usually requires the drilling of holes to allow insertion and will require the written permission of the Vendor. The use of a borescope is part of a Specialist Timber Pest Inspection and does not form part of the Standard Timber Pest Inspection.

Client
The person or entity for which the inspection is being undertaken. It is common for a purchaser's legal representative to obtain pre-purchase inspection reports on behalf of the prospective purchaser. In this case, the party placing the order is doing so on behalf of the purchaser.

Conducive Conditions
Conditions or factors present on a property which may increase either the risk of attack by Timber Pests or that may increase the risk of Timber Pests affecting the property to a greater extent. These conditions may include methods of construction such as very close proximity of timber floors to soil or other factors which have occurred after construction such the blocking of sub-floor ventilators or the build-up of gardens over the edge of concrete slab floors.

Damage
Any degradation that can be directly attributed to Timber Pests.

Damage - Extent
All of the Timber Pests damage on the site.

Damage – Severity
The impact of the damage on the intended function of the material.

Delignification (Timber Delignification)
Not pest damage, but a chemical deterioration of timber caused by exposure to contaminants such as vehicle exhaust gases, industrial pollution and coastal salty air. This is usually a slow process. Where serious damage has occurred, replacement of damaged timbers will be required.

Dogs (Termite Detection Dogs)
Dogs that have been specially trained to detect termites. Their handlers require specialist training. The use of these dogs is beyond the scope of a Standard Timber Pest Inspection but may be provided as a specialist service. The Vendor's written permission is usually required before a termite detection dog can be brought on the property.

Drywood Termites
Termites of the Family Kalotermitidae. Rare pests of structures found in warm and damp parts of Australia, these termites have small colonies that typically live entirely within a single piece of timber. They are excluded from the Standard Timber Pest Inspection.

Evidence (Evidence of Timber Pests)
Evidence of Timber Pest attack may be broad and can include the presence of live Timber Pests, damage caused by Timber Pests, mudding or shelter tubes caused by termites, exit holes or frass (dust) caused by borers, fungal growth, elevated moisture levels, warping and other distortion of building components.

Floor coverings
Materials used to cover the floor structure and may include carpet, linoleum, tiles, floating timber flooring etc.

Frass
Frass is the term used to describe particles of insect excrement. Typically, these persist after infestation and may be diagnostic.

Fruiting body
Of a fungus, the reproductive structure produced that releases spores. A mushroom is a fruiting body.

Inspection Zone
A band, generally 75 mm high or wide, around a building perimeter or sub-floor member over which termites would need to travel to reach the susceptible timbers and interior of the building. Termites bridging an inspection zone leave readily visible traces.

Invasive
A type of inspection where a part or parts of a structure are opened, cut or otherwise modified allowing the inspection of building components or areas that would otherwise be inaccessible to visual, non intrusive inspection.

Live Timber Pests
The term used when the presence of living subterranean termites or borers is indicated (see also Table 2 on page 22).

Moisture Meter
An electronic device used to assess the moisture content of building components. Elevated moisture levels can be an indicator of Timber Pests or conducive to their attack. The use of a moisture meter is included in a Standard Timber Pest Inspection.

Movement Detectors
Electronic devices designed to detect movement inside solid objects and voids. Range is limited and only a small area can be examined at a time. Terma-Trac™ has been designed specifically to detect termites. The use of movement detectors can form part of a Specialist Timber Pest Inspection, their use is not included in a Standard Timber Pest Inspection.

Mud Leads (Leads/Shelter Tubes)
Shelter tubes constructed by subterranean termites that allow them to travel over obstacles and surfaces while remaining protected from the outside environment. These are typically constructed from a "mud like" material of soil, faeces and re-worked building materials.

Mycelium
The name given to the body of a fungus. It is constructed from a network of small threads, called hyphae. In fungal attack on timber, the mycelium may extend both inside and outside the timber.

National Competency Standards
National industry-specific standards produced to set minimum knowledge and skill levels required to be met by individuals wishing to prove competency at specified roles or tasks within specific industries, trades or professions. See http://training.gov.au.

Occupants
Persons present within a property. This may include Vendors, tenants and personnel, customers and Clients where a property is used to provide services.

PPE
Personal Protective Equipment.

Probing
The application of pressure to building component or timber with a tool, (usually pointed). This can sometimes allow detection of Timber Pests or damage.

Property Manager
The person or entity who manages a tenanted property. It is often the Property Manager who arranges access for inspection to tenanted properties. Property Managers do not normally sell properties.

Purchaser
The person or entity buying, or prospectively seeking to buy, the property.

Real Estate Agent (Agent)
This is commonly the Vendor's Agent who is engaged by the Vendor to sell the property and receives payment for this service. In some cases, a property is sold by a different Agent (Selling Agent) and in these cases, both Agents would normally receive a share of the selling fee.

Seasoned Timber
See “timber”.

Sounding
The tapping of timbers and other building components. In some cases, the presence of Timber Pests can be detected by sounding.

Specialist Timber Pest Inspection
The use of invasive techniques or specialist equipment intended to allow assessment of building components or areas not accessible or not covered by a Standard Timber Pest Inspection. Recommendations for specialist inspection are often as the result of a Standard Timber Pest Inspection and for this reason, a Specialist Timber Pest Inspection would usually be carried out following a Standard Timber Pest Inspection. Specialist inspections include but are not limited to: Thermal imaging; Movement detectors (Terma-Trac™); Fibre-optic viewing devices (borescope); Termite detection dogs; Removal or drilling of building components.

Splinter Test
The removal of a splinter of wood from a timber to allow assessment of the presence of Timber Pests or damage caused by Timber Pests.

Standard Timber Pest Inspection
The inspection covered by this Code of Practice which includes some limited tests being sounding, limited probing and possibly the use of a “splinter test”. It also includes the use of a Moisture Meter but does not include the use of specialist inspection techniques or tools. On completion of a Standard Timber Pest Inspection, recommendations may be made by the Timber Pest Inspector for additional Specialist Timber Pest Inspections.

Strip Shield
A sheet of material impervious to termites, commonly a corrosion-resistant metal, placed within building members to prevent hidden termite access and forcing termites out to the edges where their actions will be visible. Also known as an *ant cap*.

Structural Significance
Whether damage caused affects the performance of the member affected.

Terma-Trac™
See “Movement Detectors”.

Termite Barrier
Termite barriers are not barriers to termite infestation and do not stop termite entry into structures. Termite barriers are intended to force termites into inspection zones where their presence can be seen. Termite barriers are important and beneficial in the early detection of termites on regular maintenance inspections.

Thermal Cameras (Thermal Imaging)
Electronic devices that measure temperature variance in the surfaces of building components. They can sometimes assist in the detection of Timber Pests or conducive conditions.

Timber
Timber is wood which is cut from trees, then dried and processed for use in construction.

Timber Form Work
Temporary framing used to support concrete during construction. Commonly used by Timber Pests to access structures.

Timber Pest Inspection Provider
The legal entity responsible for the Prior to Purchase Timber Pest Inspection and issuing the Report. This may be a company, partnership or sole trader.

Timber Pest Inspector
The person who carries out the Prior to Purchase Timber Pest Inspection and possesses the required experience and training stipulated in this Code of Practice.

Timber Pests
Subterranean termites, rot (fungal decay) and borers of dry, seasoned timber (See Table 2).

Units of Competency
Individual, industry specific elements of the National Competency Standards. The unit of competence defines the minimum knowledge and skill levels required by an individual to be competent at performing a specific task or role. See http://www.training.gov.au

Vendor
The person or entity that is selling the property.

Wall Linings
A cladding or covering which conceals the structure of the wall.

Wood
Wood is the hard liquid-conducting tissue of the stems of trees. See also “timber”.

5. Limiting Factors

There are a number of factors limiting the ability of a Timber Pest Inspector to gain an accurate representation of Timber Pest activity. Timber Pests by their very nature are secretive and difficult to locate. They are often completely concealed by the linings and claddings of buildings and cannot be detected without intrusive and destructive inspection techniques that are not possible without written permission from the property owner. The presence of Timber Pests can often only be determined by repeated inspections carried out over a period of time. Furthermore, it is never possible to conclusively determine that a property is free of Timber Pests.

The Timber Pest Inspector is looking at the subject property at a moment in time. The Timber Pest Inspector does not have the benefit of knowing the property history. Timber Pests are not static but dynamic and can often infest properties in a remarkably short space of time. Therefore an inspection in compliance with this Code of Practice is not a guarantee that a property does not have or will not sustain Timber Pest attack or damage. Pests other than those defined as "Timber Pests" within the scope of this Code of Practice are not included and are not reported upon.

A Timber Pest Inspection will not determine the extent of damage caused by Timber Pests. The extent of damage can only be determined by intrusive techniques and the consultation of building experts and Engineers. Intrusive inspection techniques will cause damage. A Timber Pest Inspection will not determine the severity of damage caused by Timber Pests. The severity of damage to a structure can only be determined by a suitably qualified person such as a Structural Engineer.

This Code of Practice does not require the use of specialist tools or the performance of Specialist Timber Pest Inspections such as thermal imaging, intrusive or movement detecting devices. The use of these tools may be recommended. The inspection is limited because the prospective purchaser does not own the property being inspected. As such, intrusive tests are extremely limited unless written permission can be gained from the Vendor of the property. Properties are often furnished when inspections are undertaken which restricts what can be inspected. Access to properties does not include the movement of items such as furniture or lifting of floor coverings. When properties are prepared for sale by Vendors particular attention has often been made with regard to the presentation of the property. Timber Pest Inspectors must show due regard.

Inspections are limited by available access at the time of inspection. Access is often limited because the occupants are not always present at the time of the inspection with limited access being provided by the Vendor's Agent. Inspections are limited when damage from Timber Pests is concealed by works carried out prior to the inspection.

The normal inspection performed under this Code of Practice does not include the detection of Drywood termites (e.g. *Cryptotermes brevis*) or any exotic Timber Pests. Drywood termites will typically live entirely within a piece of timber with no visible evidence. They are extremely difficult to detect and consequently easy to miss. Their colonies are very small (usually only a few hundred individuals). Worse, colonies can be dispersed deep within the building's concealed structural timbers. Until damage becomes visible it is virtually impossible to detect using methods acceptable on Timber Pest Inspections. Nevertheless, in damp and warm coastal and mountain areas where Drywood termite infestations are known, a normal inspection methodology may be extended, by prior agreement, to decrease the risk of missed Drywood termites. Actual detection of difficult-to-find pests may require an invasive inspection where walls and roofs are opened and this often means working at heights, with special equipment and restraint systems.

Inspected properties will often have non-timber destroying pests on the site such as bed bugs, cockroaches, fleas, rodents etc. These are not defined as Timber Pests and so are not covered in this Code of Practice.

6. Scope

The scope of this Code of Practice is limited to describing what should be inspected for and reported on as part of a Prior to Purchase Timber Pest Inspection.

The Timber Pests that are of structural significance and attack seasoned timber in service which this Code of Practice covers include: Rot or Fungal Decay, Subterranean Termites and Borers (see Table 2 on page 22).

The Code also covers:

1. Conditions conducive to Timber Pest infestation in buildings.
2. Factors that may allow undetected entry by subterranean termites.
3. Recommendations for the reduction of termite risk on the subject property.
4. Recommendations for the management of Timber Pests on the subject property.

Cost estimates for the ongoing management of Timber Pests provide value to the prospective purchaser. The pest management strategies available to property owners are many and vary in both price and method. Several proposals should be considered when making a long term decision regarding termite management. Termite management should be carried out in compliance with Australian Standard 3660.2-2000, incomplete or partial treatments carry the risk of the attack continuing unabated with ongoing damage and higher resultant costs.

7. Required Philosophy

7.1 The Timber Pest Inspector

Timber Pest Inspectors have to consider each property on its own merits and consider the interests of the Client who is making what is often the biggest financial decision of his/her life. Timber Pest Inspectors must be methodical and thorough in both their approach to the Timber Pest Inspection and the preparation of their Report. The time required to carry out a Timber Pest Inspection and Report is difficult to predict and will vary from property to property depending on the construction, size, access and condition. Flexibility in time spent on the inspection is required. The Timber Pest Inspector will employ a consistent procedure that covers the performance of the inspection and the production of the Report. This procedure will result in a service that is consistent over time and between properties.

Any property may be affected by Timber Pests, therefore the Timber Pest Inspector conducts every inspection with the mind that Timber Pests are present.

The Timber Pest Inspector uses simple and clear terms to communicate the results from the Timber Pest Inspection to the purchaser.

The Timber Pest Inspector must carry out the inspection with all due care and diligence in accordance with established procedures that ensure consistent levels of service.

7.2 The Timber Pest Inspection Provider

The Timber Pest Inspection Provider minimises risk to themselves and the Client by;

- Providing proper training for their Timber Pest Inspectors;
- Ensuring Timber Pest Inspectors have appropriate experience and are fully qualified;
- Holding current Professional Indemnity Insurance and Public Liability Insurance.

The required level of insurance will vary depending on the value and circumstance of the property being inspected and the specific requirements of the Client.

7.3 The Client

The Client must acknowledge the limitations on Timber Pest Inspector.

The Client must allow adequate time to arrange access, carry out the inspection and prepare the Report.

The Client must acknowledge that the Timber Pest Inspector's ability to access the property may be dependent upon the Vendor and others such as the Selling Agent, Property Manager and the occupants. Therefore, it is recommended that the Client should order the Report as early in the purchase process as possible.

The time available to purchasers to obtain an inspection report is often limited by the contract of sale. Various factors can delay the provision of the inspection report. These factors are beyond the control of the Timber Pest Inspector and these factors may include: accessing tenanted properties, inability of Vendors or their Agents to meet suggested appointment times, supply of incorrect property details.

The Client must acknowledge that Timber Pest infestation risk is never zero. Even buildings and properties that have low risk of Timber Pest infestation can still be attacked and damaged by Timber Pests. Attack of buildings by Timber Pests is normal and not uncommon. It is normal for properties to have evidence of attack by Timber Pests.

The management of Timber Pests is a routine maintenance issue for buildings.

7.4 The Vendor

It is necessary that the Vendor provides adequate access to complete the Timber Pest Inspection and Report. Access is required to any and all buildings, grounds, sub-floor areas, building interior and roof cavities. The Vendor accepts the need for the Timber Pest Inspector to carry out tests including the splinter test, sounding and probing into timbers. Damage caused by splinter tests and probing must be limited to pest damaged and suspect timbers. Splinter tests and probing tests properly carried out expose and identify existing damage and do not cause significant damage to timbers. Probing and splinter tests are required to identify Timber Pests and are only used on timber already damaged by Timber Pests. Sounding is used on wall linings and visible timbers. Damage caused by sounding is only revealing existing damage to timber or wall linings. Separate permission may be required with the Vendor or their Agent to allow inspection techniques that exceed the above guidelines.

7.5 Training of the Timber Pest Inspector

In order to provide a competent Timber Pest Inspection the Timber Pest Inspector must be familiar with the basic biology and habits of Timber Pests. In order to gain this level of competence, appropriate experience in the management of Timber Pests is required. This experience provides the Timber Pest Inspector with insight into the various patterns of Timber Pest infestation. This insight allows for the easier detection of secretive Timber Pests. The Timber Pest Inspector is knowledgeable in basic construction terms and methods and is able to correctly identify basic building components.

To achieve this level of competence the Timber Pest Inspector must achieve the pest management competency units 8 and 10 of the national competencies, plus either units 5, 6 and 18 or a pest management licence. In addition the Timber Pest Inspector must have had a minimum of two years' experience in pest management that must have included active Timber Pest management.

Table 1: Pest Management Units of Competency

Required by Timber Pest Inspectors	
Unit	**Code**
8	PRMPM08B
10	PRMPM10B
Required for Licence to Apply Pesticides	
Unit	**Code**
5	PRMPM05B
6	PRMPM06B
18	PRMPM18B

7.6 Client education

7.6.1 The Pre-Inspection Agreement

The Pre-Inspection Agreement shall inform the Client of the inspection limitations that are commonly found. It shall create a realistic expectation in the Client's mind about what is possible on a Timber Pest Inspection Report. Any special requirements or limitations must be included in the Pre-Inspection Agreement. The Pre-Inspection Agreement forms an integral part of the Report.

7.6.2 After the inspection

The Timber Pest Inspector should be available and prepared to discuss the content of the written Report with the Client/purchaser.

7.6.3 Ensuring successful communication

If a Client has difficulty understanding the inspection outcome, the first step is to speak with the Timber Pest Inspector or the Timber Pest Inspection Provider's Agent and clarify any issues. If any difficulty remains, it is useful to consult the relevant clause in the prior-to-purchase agreement and detail the perceived problem in a document provided to the Timber Pest Inspector or the Timber Pest Inspection Provider's Agent. This typically ensures a positive outcome but, in the rare case that it doesn't, the issue may be raised with AEPMA (AEPMA member Timber Pest Inspectors only) or an appropriate government agency.

7.7 Dispute resolution procedure

All parties agree that any complaint arising out of this inspection or Report will be presented in writing in a timely manner. If the parties cannot finalise the dispute within 14 days of receipt, the matter will be taken to mediation. If mediation fails the matter will be taken to an independent arbitrator.

7.8 Choosing a Timber Pest Inspection Provider

Timber Pest Inspections are non-tangible and as such, it is difficult for the Client to gauge the value. The assessment of a property for Timber Pests is a specialist process and requires an inspection dedicated to their detection. It is best practice to carry out a Timber Pest Inspection on its own, as an inspector who also carries out another type of inspection (such as a concurrent building inspection) cannot maintain the level of focus required to meet the benchmark set by this Code of Practice.

This Code of Practice provides information on Timber Pest Inspector qualifications and experience, insurance requirements and inspection processes and techniques. In choosing a Timber Pest Inspection Provider the information provided by this Code of Practice should be used by the Client or purchaser to help assess the Timber Pest Inspection Provider prior to making a choice.

7.9 Occupational health and safety

Timber Pest Inspectors are exposed to many potential dangers. The use of appropriate Personal Protective Equipment (PPE) is required in areas such as roof cavities and sub floors. All Timber Pest Inspectors work in accordance with a formal occupational health and safety management system.

8. Arranging the Inspection

8.1 Taking the order

A procedure must be in place to ensure that all Client and property details are captured and confirmed. The procedure must also ensure that the Client and inspection provider agree on the scope of the inspection. The Pre-Inspection Agreement, in writing, is a contract benefiting all parties.

The Timber Pest Inspector needs the Client and property details to compile the Report and to organise access to the property. The Client is informed of the scope of works and agrees with them.

The Pre-Inspection Agreement must provide a comment or special condition section to deal with any job specific requirements.

8.2 The Pre-Inspection Agreement

The Pre-Inspection Agreement:

- Shall be in writing.
- Will be Client specific.
- Details the scope of works.
- Shall specify that the works will conform with this Code of Practice.
- Shall state that the Client has permission from the Vendor or their Agent for the works to proceed in accordance with this Code of Practice.
- Shall specify the complaints procedure and resolution process.

8.2.1 Confirmation of the Pre-Inspection Agreement

Upon agreement between the parties works can proceed. The Client's acceptance should be recordable, *e.g.* a signed agreement, voice recording, or a message in text form.

8.2.2 Contacting the Vendor or their Agent to arrange property access

The inspection cannot proceed until access is provided by the Property Owner, Occupier, or their Agent/Representative.

8.2.3 Scheduling the appointment time

The inspection is scheduled with the Property Owner or their Agent to provide a time frame for appropriate access and time to complete the works.

9. The Timber Pest Inspection

9.1 The provision of access

Providing access to the property is generally organised between the Timber Pest Inspection Provider and the Vendor's Agent. A standard agreement made between the Timber Pest Inspection Provider and the Vendor can provide the Timber Pest Inspector with the required level of access to complete the inspection including the use of limited tests. The Pre-Inspection Agreement can be used to provide the Timber Pest Inspector with the required level of access to complete the inspection including the use of limited tests.

9.2 Physical access

A Timber Pest Inspector cannot work where there are unresolved safety issues. A Timber Pest Inspector needs space in which to work. Under a floor, with no debris, the minimum vertical clearance is usually 40 cm but may be 50 cm if there are protrusions (such as concrete form work). Ceilings and external walls are inspected only as far as can be reached by a 3.6 metre ladder or 2.1 metre step ladder unless prior agreement and special provisions are made. For access into a roof void, an entry of at least 45 cm by 40 cm is required and the vertical working clearance is set at 60 cm. The construction of the roof (inadequate clearances, low pitch or widely spaced framing) may also create access limitations. (Further access limitations are discussed in Section 11.4).

Occupational health and safety regulations must be followed at all times and may impose further restrictions in addition to those described in this Code.

9.3 Inspection sequence

Timber Pest inspections should be carried out in a systematic manner to ensure consistency of results from one property to another. Timber Pest inspection procedures are constantly evolving within the industry and will vary from one Timber Pest Inspection Provider to another and from one property to another. The inspection sequence often begins with the exterior of the property to note the lie of the land and extensions present. All external timber should be inspected and susceptible timbers noted. The inspection should then proceed through the sub-floor area, interior and roof void, taking note of the high risk areas noted on each previous stage.

9.4 Inspection procedure

For the purpose of this inspection procedure attachments, additions or alterations will include inspection of any extensions, patios, pergolas, paving, gardens or anything added on the ground abutting the external foundation walls of house. The following procedure is an example of a Timber Pest Inspection procedure used in accordance with this Code of Practice. Procedure will vary between providers and localities.

Exterior

The property and environment is assessed for overall risk. Where possible, perform the following tasks:-

1. Note the presence of extensions or additions.
2. Note the location of any attachments.
3. Establish if there are any concrete slabs on ground.
4. Establish if they are raft or infill slabs. Note evidence of termite management systems and location of inspection zones.
5. Note the location of damp course.
6. Note the general footprint shape of the buildings, and location of fences, trees, stumps and landscaping timbers.

7. Inspect any sheds or outbuildings as per the Pre-Inspection Agreement.
8. Inspect the inspection zone or lower foundation wall.
9. Note all areas where inspection zone is concealed or compromised.
10. Note all areas where high risk factors exist.
11. Inspect all external finishing timbers.

Sub-floor Areas

1. Pay close attention to base-plates in areas where additions or attachments abut or where inspection zones, damp course or vents are concealed.
2. Make sure there is full access to whole sub-floor. Note any areas that have no access for inspection *e.g.* patios, steps or extensions.
3. Note any timber forming work or other timber in contact with the ground.
4. Assess the sub-floor for signs of excessive moisture. Inspect under showers and laundries for leaks.
5. Assess cross-flow ventilation.
6. Note any impediments to the inspection such as stored items or fixtures which block access.

Interior

1. If there is a concrete floor, pay particular attention to any floor coverings along external walls and near wet rooms. This may involve inspecting under localised sections of the carpet edge in at least one corner of the external wall in each room.
2. Sound internal wall linings and accessible timber as required.
3. Use a moisture meter.
4. Pay close attention to wet areas.

Roof Voids

1. Note any inaccessible areas.
2. Sound accessible roof timbers.
3. Pay close attention to areas above risk factors such as wet rooms.
4. Lift insulation over top plates at various intervals, especially over wet areas.

9.5 The site inspection check-list

The site inspection check-list is to record the findings on the survey as the inspection proceeds. The Timber Pest Inspector will create and retain a check list that confirms the:

- Arrival and departure times.
- General description of the building.
- The prevailing weather conditions.
- The site limitations.
- Any access limitations.
- The findings of the inspection.

10. Inspection Techniques

10.1 Tools for use in Timber Pest inspections

Tools should not be limited however the basic tools required for a Timber Pest Inspector in order to meet most inspection requirements are:

- A powerful robust torch
- PPE equipment
- Ladder extendible to 3.6 metres
- Sounding tools
- Probes or knife
- Pair of pliers
- Moisture meter
- Camera
- Measuring tape or ruler
- Hand lens
- Report check sheet/notepad
- A copy of the inspection procedure and this Code of Practice.

10.2 Use of sounding techniques

Accessible timbers are tapped with the tool to allow the Timber Pest Inspector to listen for resonance variations within each section. Variations in the sound produced may indicate timber damage to the skilled Timber Pest Inspector. Sounding will not detect all Timber Pest damage or activity but may detect advanced or severe Timber Pest evidence.

- *When using sounding techniques background noise should be minimised where possible.*
- *A suitable sounding tool for sounding light and heavy timbers must be used. A soft sounding tool suitable for sounding wall linings must be carried. Sounding will often reveal existing damage. Tapping damaged members may leave marks or dents.*
- *Accessible wall linings can be sounded with a soft sounding tool e.g. a small rubber mallet to listen for falling debris within the wall cavity that may be dislodged when the wall lining is impacted and variations in sound caused by mud packing within the wall.*
- *Termites often respond to sounding by making small clicking noises that can sometimes be heard by the Timber Pest Inspector.*

The Timber Pest Inspector may then conduct further limited tests or make recommendations.

10.3 Use of probing and splinter tests

Minor probing and splinter tests may prove necessary where indicators are detected of possible Timber Pest damage or activity.

Minor probing or splinter tests are required to identify Timber Pest damage in suspect timber and possible activity in suspect timber. These tests are often required to more specifically identify the Timber Pest. When a sounding test or visual cue has identified suspect timber, it must be probed or splinter tested to identify if Timber Pest damage is present and probable cause.

The timber being tested must only be penetrated sufficiently to identify the damage and possibly the pest involved, because overzealous exposure of the damage can limit treatment options should the pest be active and may even affect structural integrity.

These tests are by their very nature invasive. These tests must be carried out with due respect for the property and the Vendor. Tools appropriate for the particular timber being tested and the location of the timber, must be used to minimise the visual impact of the test. It may be prudent to first conduct a non invasive electronic test prior to a probing or splinter test in areas normally visible to the occupant. These tests are normally carried out using:-

- A probe for testing heavier timbers that are in areas not normally visible to the occupants i.e. sub-floor and roof void. These tools are also commonly used on some visible timbers such as landscaping timber and trees and stumps. Again the visual impact of the tests must be minimised.
- A knife or sharp probe for testing apparently damaged finishing timbers and fixed joinery, normally visible to the occupants both internally and externally. Special care must be taken to minimise the visual impact of these tests.

10.4 Use of electronic equipment

Variations in electronic readings can be used as an indicator of the presence of Timber Pests. These tools do not detect pests. Information gained from these tools must be interpreted by the Timber Pest Inspector and specialised training and experience is required to effectively use these in the field. These tools cannot be used as standalone tools, they add to the information gained on a Standard Timber Pest Inspection. The readings from these tools are often most meaningful when used in combination because they detect different indicators.

10.4.1 Required electronic tools

Variations in moisture content can be an indicator of Timber Pest activity or conditions conducive to Timber Pest activity.

Moisture meters are an invaluable tool for Timber Pest Inspectors for detecting raised levels of moisture which promote both termite attack and decay and may also help reveal their presence.

Capacitance-type meters employ non-marking pads and can be used to assess variations in the moisture content of different materials, such as wall linings or timber. Pin-type (current) meters are restricted to readings taken directly from timbers and are less commonly used by Timber Pest Inspectors because they necessarily damage the surface tested.

10.4.2 Additional electronic equipment available

These tools are not mandatory under this Code of Practice and require a special inspection process and agreement.

10.4.2.1 Thermal cameras

Thermal cameras can detect small variations in radiated heat. These variations can be indicators of Timber Pests or conditions conducive to Timber Pests. Only in the hands of a properly qualified and experienced thermographer can they provide additional information regarding Timber Pests.

To be effective in the detection of Timber Pests the correct conditions must be present. A large variation in thermal equipment is available and the equipment details must be provided in the inspection report.

To gain the most information from a thermal camera correct preparation of the property may be necessary, but is not always possible in the Prior to Purchase Timber Pest Inspection. Because of the potential for preparation in advance, these inspections are often carried out at a separate time from the Prior to Purchase Timber Pest Inspection.

Thermal cameras are often used when Standard Timber Pest Inspection tests are not deemed adequate by the Timber Pest Inspector and additional tests are recommended.

Thermal cameras will detect variations in thermal energy emanating from surfaces caused by normal conditions, not caused by any fault or timber pest. It is therefore necessary to have alternative equipment that detects other indicators so that data can be confirmed or denied. For example, a

"hot spot" on a wall next a refrigerator can be checked with a moisture meter to rule out termite activity next to the refrigerator.

10.4.2.2 Movement detectors

Terma-Trac® is the only available movement detector specifically designed for the detection of termites. It uses microwaves to detect movement. It is not generally used to randomly search for Timber Pests, but as a secondary confirmation tool or to test areas at high risk of concealed termite entry. For instance, if an area of raised moisture levels is detected, this might be the result of termite activity and the Terma-Trac may be used to detect their movement. It might also be used to check an area where garden mulch is piled high concealing the termite inspection zone.

10.4.2.3 Optical borescopes

Optical borescopes are used for investigations of hidden areas. The borescope probe is inserted through a hole to view hidden voids. Existing holes can be used however most of the time borescopes are used to verify findings of other tests and so a hole is drilled for the purpose.

A variety of borescopes are available from relatively low capability devices through to state of the art high capability devices which allow more to be seen.

10.4.2.4 Sound detectors

A variety of devices can be used to detect the acoustic emissions of insects feeding in timber ranging from a glass on the wall or a stethoscope, to more sophisticated electronic devices.

10.4.2.5 Other non-invasive tools

Dogs can be trained to detect Timber Pests such as termites. Training and handling of Timber Pest detection dogs is a specialist area and only appropriately trained handlers and independently validated dogs should be used. Specific permission from the Vendor and/or the occupant is required before a dog can be brought onto the subject property.

10.5 Identification of Timber Pest damage

10.5.1 Visible evidence

Most Timber Pests feed mainly within timbers and leave little surface sign of their presence. Often the signs are subtle. Eaten timbers may have a changed surface appearance, such as when termites eat right up to the paint layer, causing minor ripples. This is observed by sighting along the surface.

The holes that beetles make when adults emerge are strongly diagnostic but the presence of these holes does not necessarily mean the continued presence of beetles as, for example with Powder Post Beetles, the actual infestation may have finished years earlier.

Termites use mud or faeces to seal any surface holes they may make. They also use the same materials to construct mud leads (shelter tubes) over non-food items. Mud leads and stains from mud leads can often be seen on foundations or within building structures that provide evidence of termite infestation. A lot of information can be gained by a skilled Timber Pest Inspector but an exact determination of the age is not possible. Apparently old or abandoned mud leads can become active at any moment. Without live Timber Pests being present it is not possible to determine from this evidence if the infestation is active or has been adequately treated or when the infestation took place.

10.5.2 Audible evidence through sounding

Timbers resonate when lightly tapped as the fibres flex and spring back. A skilled Timber Pest Inspector may infer the presence of damage by tapping the surface of the timber and listening to the resultant sound. Heavily damaged timber does not resonate clearly. Tapping can detect feeding within the timber that has not left any visible surface sign.

10.5.3 Evidence gained from tests

The information gained from tests may suggest Timber Pest activity but do not necessarily detect Timber Pest damage.

10.6 Identification of Timber Pests

For the Timber Pest Inspector to assess the Timber Pest status and risk it is important to identify the Timber Pests when indicators are detected and reported.

10.6.1 Active Timber Pests

Evidence of Timber Pests can be drawn from a variety of observations, such as live Timber Pests, mud leads from termites, residues of termite muddling, Timber Pest damage, exit holes from borers, sap staining or fungal growth on timber etc. Much of this evidence is extremely subtle and difficult to detect.

The following table broadly lists the three main groups of Timber Pests and some tests used to detect their activity.

TABLE 2 Detecting Common Timber Pests of Structures

Pest type	Indicator			
	Live Pests	**Signs of Pests**	**Sounding**	**Splinter Test**
Decay	May see the body of the fungus (mycelium or fruiting body)	Shape change, colour change, texture changes, swelling, warping, collapse	Dull, reduced or no resonance	Can't pull a splinter. Timber crumbles.
Termites	Wings, insects	Shelter tubes, mudding, flight holes, collapse, irregular surface under paint	Hollow sound	Timber usually still splinters
Borers	Frass, insects	Frass, exit holes, collapse	Resonance muffled or absent	Not used

10.6.1.1 Live termites

Live termites are usually concealed within the timber or their mud leads. They can sometimes be exposed after conducting a probing or splinter test on termite damaged timber or mud leads and galleries but often they cannot be shown without undertaking an invasive inspection.

Where live termites are found they should be identified to Genus level where possible.

10.6.1.2 Borers

Borers are beetles whose larvae live and feed within timber. Live borers are rarely seen. Damage is identified by visual sighting of exit holes. Identification is most often made from examination of exit holes, collected frass and conducting a splinter test or probe test on damaged timber. Borers should always be considered active when damage is identified.

- When evidence of Timber Pest Borers is found they should be identified, where possible, to the level of genus. Where evidence of borers is detected the Timber Pest Inspector must be able to assess the potential risk these borers pose to the structural integrity.

10.6.1.3 Fungal decay

Fungal decay is identified visually or by conducting a splinter test or probe test. Decay is often found in conjunction with insect Timber Pest damage. Early stages of decay may not be visually detectable.

- It is not as important to identify the particular type of decay organism as it is to record its presence, as all decay is timber destroying.

10.6.1.4 Timber delignification

Timber delignification is identified by visual appearance of the timber (raised, separated fibres) and assessed visually or with a splinter test.

- It is physical, not biological degradation.

10.7 Conditions conducive to Timber Pest infestation

In addition to the presence of Timber Pest damage and Timber Pests a property buyer needs to know the conditions conducive to Timber Pest infestation on the subject property when considering purchase. Timber Pest Inspectors need to be able to identify conditions conducive to pest infestation and offer advice on minimising those conditions. Typical conditions conducive to Timber Pests commonly listed in the inspection report include:

- Poor drainage. Leaks in showers and plumbing.
- Hot water or air conditioner overflows discharging at the base of the building walls.
- Gardens abutting foundation walls.
- Poorly stored firewood.
- Use of wood chip and landscaping timbers in gardens particularly when abutting foundations.
- Poor sub floor ventilation.
- High finished ground levels abutting external foundations.
- *The higher the external ground level abutting the foundation the greater the risk of Timber Pest attack.*
- Building timbers in contact with the ground.
- Timber forming work under suspended slabs.
- A known history of previous termite infestation.

10.8 Termite-specific inspection issues

Termites, as social insects, exhibit cooperation and their ability to act in an organised, coherent manner makes them especially capable Timber Pests.

10.8.1 Conditions present that could allow concealed attack by termites

Many buildings have areas where termites can gain concealed entry to the structure and cannot be detected by the inspection. This is important for the purchaser to consider in the ongoing management of Timber Pests at the property. It is also important for the Timber Pest Inspector to note when deciding if additional tests or specialist techniques should be recommended.

- Incomplete or poorly maintained termite barriers.
- Inadequate inspection zones.
- Attachments concealing inspection zones. For example rain water tanks, hot water system, air conditioning units, abutting foundations
- Construction on the boundary or semi-detached construction.
- Inaccessible areas. For example, where enclosed sub-floor voids are inaccessible Timber Pest attack can be concealed to the Timber Pest Inspector.
- Modifications or extensions compromising termite barrier systems.
- Buildings constructed with no termite barrier systems.

10.8.2 Termite barriers

Termite barriers can be both chemical and physical and will aid the Timber Pest Inspector in detecting termites by forcing termites to construct mud tubes around inspection zones. When termite barriers are not continuous or are bridged by poor design, high external levels or additions to the home, termites can gain concealed entry to the house and avoid detection. Often a notice is present in the meter box of the house to advise the Timber Pest Inspector and Property Owner of the existence of a termite barrier system or a termite management program in place. Typical conditions conducive to concealed termite entry include but are not limited to:-

1. Non continuous termite barrier systems.
2. Corrosion of termite strip shielding.
3. High external levels bridging inspection zones.
4. Steeply sloping sites.
5. Building extensions and modifications.

10.8.3 Assessment of termite management of the property

Where properties have a history of termite infestation, records of previous actions can provide the purchaser with confidence that the response has been appropriate. Often records of previous actions also provide useful information for future termite management. If the Vendor agrees to provide such records they should be assessed. Usually however, this information is not available on a Prior to Purchase Timber Pest Inspection.

The structure is checked for a notice of application of installed termite barriers (in most cases this is in the electric meter box, sub-floor joist or kitchen cupboard). Evidence of treatment for Timber Pests is often visible to Timber Pest damage and the structure. Insecticidal dust residues are coloured to allow easy identification inside termite damaged timbers and termite workings. Drill holes in concrete slabs can also be indicative of a treatment for either active infestations of termites or as a measure to reduce the risk of concealed termite entry to a property.

It is not always easy to determine if a property has been treated for subterranean termites particularly if such a treatment was carried out during construction or the evidence of a treatment has been concealed. Treatments may consist of physical or chemical barriers or a combination of both. This assessment of treatment evidence is in no way conclusive. Where no visible evidence of treatment was found, it does not necessarily mean that the property was not or has not been treated. Some signs of treatment are not readily visible during an inspection. Where any evidence of a termite treatment was noted, the Timber Pest Inspector can give no assurances with regard to the work performed or other work carried out as a result of Timber Pest attack. Further enquiries should be made and any documentation obtained to verify work carried out by other companies. In many cases re-treatment may be required.

10.8.4 Ongoing termite management

An integral part of the Report is the Timber Pest Inspector's recommendation for ongoing management. This provides the potential purchaser with important information regarding the ongoing property maintenance and steps required to reduce the Timber Pest risks. Factors that determine the ongoing management needs include:

- ***Risk of concealed termite entry***
  Where barriers are incomplete or absent or poorly placed or maintained, there is a risk of concealed termite entry, that is, unfettered access to feed within the building. Such infestations may create considerable damage before they are able to be detected.

- ***Measures to reduce risk of concealed termite entry***
  Since the aim of termite barriers is to deter concealed entry, it is useful to detail the available management options.

- ***Visibility of inspection zones***
  Inspection zones are used to detect termite activity and to some extent deter explorations. They must be appropriately sized and located and kept clear.

- ***Bridging of termite barriers***
  Any bridging of termite barriers or inspection zones is a serious issue, requiring attention.

- ***Termite barrier notices***
  These provide a record of any termite barriers installed on a property and are usually located in a meter box or on the back of a kitchen cupboard door.

- ***Active Timber Pests***
  Where active pests (e.g. termites or beetles or decay) are located or suspected, plans must be made to intervene in order to protect the structure.

10.8.5 Termite monitoring systems

Termite monitoring systems are installed to the grounds of properties to detect termite activity. They are often installed both in response to active infestation and as a pre-emptive measure. The Timber Pest Inspector is not required under this Code of Practice to open and inspect monitors.

10.9 Relative Timber Pest risk

The overall risk is assessed by the Timber Pest Inspector based on the location, build and any conducive conditions. The assessment will be based on the risk relative to nearby, similar properties. Risk levels are subjective and are used as a general guide. Structures of low risk are often attacked by Timber Pests. The risk levels are:

- **Extreme**
  Used where a property has active pest problems and/or is in disrepair such that conducive conditions abound.

- **High**
  It is important to note that in many areas, all houses will be subject to a high relative risk.

- **Normal**
  Most properties are expected to fall into this category. It does not mean that they will not suffer Timber Pest damage, just that the chances of such damage are in the normal range of expectation for similar properties in that area.

- **Low**
  An exceptionally well constructed and maintained property may be assessed as having below average risk. Ongoing maintenance and regular inspections are still required to keep the risks at this lower level.

11. The Timber Pest Inspection Report

The Timber Pest Inspection Report is the vehicle by which the Timber Pest Inspector details and communicates the findings of the inspection.

11.1 Identifiers

The section of the Report will detail:

- Name of the Client.
- Name of the Vendor/ Agent if available.
- Name of the Timber Pest Inspector.
- Address of the property being inspected.
- A general description of the building;
  The building is generally described to ensure that the one inspected is the subject property. Often a photograph is used to ensure that the correct building has been inspected.

11.2 The inspection summary

A summary is generally provided at the beginning of the report to provide an overview of the property for the purchaser. This will direct the purchaser to the critical issues raised in the body of the report and answer fundamental questions such as "Were Timber Pests found?" It is important to note that the summary should not be solely relied upon by the purchaser as much more information is required and provided in the main body of the report. To make an informed decision regarding the purchase of the property the full report must be read and understood. Any questions should be directed to the Timber Pest Inspection Provider prior to any decision to proceed with purchase.

11.3 Findings

11.3.1 Evidence of Timber Pests

If active Timber Pests are located or suspected, this will be detailed. The Timber Pest type, evidence found and the general location will be provided.

11.3.2 Evidence of Timber Pest damage

Evidence of Timber Pest damage, its general location, possible extent and recommendations for ongoing management shall be reported. The nature of the evidence and the general location of the evidence will be provided. This will also include any suspicion of any areas that may have damage but could not be inspected.

11.4 Timber Pest risk assessment

The Timber Pest Inspector will provide an assessment of Timber Pest risk based on the buildings susceptibility to be damaged by Timber Pests, conditions that encourage Timber Pests and structural conditions that could allow undetected Timber Pests.

11.4.1 Conducive conditions

Any observed conditions considered conducive to Timber Pests will be detailed. These include site conditions such as the environment or specific conditions within the structure.

All buildings have conditions conducive to Timber Pest attack. These arise from building design and construction issues, site conditions, building maintenance and building faults.

11.4.2 Conditions providing potential for concealed access by termites

Any observed conditions that could permit concealed entry to a structure by termites will be reported.

Most buildings have some potential for concealed termite entry. The potential arises from building design and construction issues, site conditions, building maintenance and building faults. It is often only possible to detect these areas after infestation has occurred.

11.4.3 Limitations to the inspection

There are often limitations which impact the scope of the inspection. Such limitations may be inherent, foreseeable or unexpected issues which arise and interfere with the inspection process.

11.4.4 Access to inspect

Areas inspected will be reported.

11.4.5 Areas not inspected

Areas not inspected will be detailed in the Report.

Areas where no access for inspection was possible or where access for inspection was restricted or limited will be reported. Reasons for the access restrictions will be given. Where it would be reasonable for access to be gained, this will be recommended. Where sections are noted as 'inaccessible' the Report will state that the inspection is incomplete.

Often sections of the building or property are unavailable for inspection for any of a variety of reasons. It would be reasonable to gain access by having doors unlocked, stored goods removed but it is not reasonable to request the removal of roofing, insulation, air conditioning ducts etc.

11.4.6 General limitations that apply to most properties

General limitations are covered in the Pre-Inspection Agreement which is an integral part of the Report.

11.5 Recommendations for additional inspection

The Report will provide any recommendations for further inspection or a Specialist Timber Pest Inspection deemed necessary by the Timber Pest Inspector.

11.6 Management of active Timber Pests

The likely cost of managing active Timber Pests is important for the purchaser to consider when buying a property. Where active Timber Pests are reported, the Report will include options for the management of those pests.

11.7 Ongoing management of Timber Pests

All properties require ongoing pest management. Even when no Timber Pests are detected, information about the ongoing costs of pest management are important details for the purchaser to consider. A proposal for the ongoing management of Timber Pests may be appended to the Report.