



*Plantation Pine Framing Campaign*

## Q&A about termite protected plantation pine framing (H2-F)

### What is 'termite protected' plantation pine framing?

Termite protected plantation pine framing has been treated with either a water-based or natural oil-based solution containing long acting synthetic pyrethroid insecticides.

The synthetic pyrethroid insecticides used to protect plantation pine framing have been chosen for two reasons:

1. for their proven effectiveness in controlling and repelling termites for up to 25 years; and, also
2. for their inherent safety to humans, animals, and the environment.

Plantation pine timber used for framing is treated in a way which ensures protectant solutions are allowed to cover and protect its whole surface. When dry, the pyrethroids bind with the surface of the timber to provide a long lasting barrier against termite attack.

Under Australian Standards, termite protected plantation pine framing is classed as 'H2-F' which means it will resist termite attack in any areas of Australia south of the Tropic of Capricorn. (There are also termite solutions for plantation pine framing available for use north of the Tropic of Capricorn.)

### What protectants are used?

The main termite protectants applied by Australia's leading plantation pine framing manufacturers are long acting synthetic pyrethroid insecticides: permethrin (applied using a natural oil base such as linseed oil) and bifenthrin (using a water base). Both are effective at exceptionally low rates (around two grams of pyrethroid per ten kilograms of dry timber or 0.02% of dry timber mass).

Synthetic pyrethroids are from the same class of insecticides as natural pyrethrin which is one of nature's most powerful yet environmentally gentle and safe pest management tools. Synthetic pyrethroids share natural pyrethrin's inherent 'environmental gentleness' and safety to humans and non-target species. However, while they also break down naturally over time when disposed of and do not accumulate in the environment, synthetic pyrethroids provide extended protection against damaging insect pests.

Importantly, synthetic pyrethroids used to protect timber framing are also used routinely in household insect sprays, domestic pest control, in body treatments (eg for head lice control) and in the production of food crops. Also importantly, all timber preservatives are approved nationally by the Agricultural Pesticides and Veterinary Medicines Authority (APVMA) as well as State based regulators.



## **Why does plantation pine framing need to be protected against termites?**

Subterranean termites are native to Australia and play an important role in nature, recycling dead and rotting trees and other vegetation. However, especially in our warmer and wetter climatic zones, where forests and bushland have been removed to make way for housing, termites can also attack timber used in building construction as well as other cellulose based products. Termites can attack a range of items in a house including skirting boards, cupboards and furniture, even paper facings on plasterboard. Protecting all elements from attack is called “whole of house” protection

Australian building codes require that houses and other buildings be protected against ‘concealed termite entry’ by physical and/or chemical termite barriers. However, for a range of reasons, barriers can sometimes be broken and breached.

H2-F Termite and borer protection for plantation pine timber frames is a relatively new technology which became commercially available in 2004.

Where plantation pine timber frames have been treated with a termite protectant, structural integrity will be maintained and termites (and borers) will maintain its structural integrity for up to 25 years, providing owners and occupants with peace of mind.

Importantly, however, whole of house protection of the building can only be achieved by taking a complete, integrated approach to termite management including:

- initiating regular professional checks of termite barriers and inspection of surrounds for evidence of termite activity;
- ensuring termite barriers are not compromised by being covered by soil or wood chips;
- making sure any alterations or additions to buildings or building surrounds are themselves protected by barriers or barrier extensions and that their construction does not damage or interfere with existing barriers; and
- if termite entry is discovered or suspected, any infestations are treated by licensed professional pest managers.

## **Does the termite protection affect the strength of the timber?**

H2-F termite protection has no effect whatsoever on the strength of timber.

## **Does the termite protection increase the flammability of the wood?**

Termite protection has no effect whatsoever on timber flammability.

Importantly, plantation pine framing offers real benefits over steel framing in fire situations because steel frames are prone to softening and buckling in extreme heat. By contrast, timber frames follow a more predictable burning pattern and tend to support structural loads for longer in a fire.

## **What happens if termite protected plantation pine framing is cut after it has been treated?**

If termite protected timber has been cut, there is minimal risk of termite attack through the cut ends especially if the cut end abuts a frame, however, more specific advice can be gained from manufacturer recommendations.

**What happens if termite protected plantation pine framing is planed or otherwise had its surface breached after it has been treated?**

If termite protected timber has been planed or had its protected surface otherwise removed or breached, it is recommended that the unprotected surface be painted over with a proprietary protectant containing a long acting synthetic pyrethroid and allowed to dry naturally to provide all-over protection in the long term.

**Are termite protected timber wastes (end cuts, sawdust, etc.) hazardous?**

Any waste which occurs as the result of using H2-F termite protected plantation pine timber framing is regarded as non-hazardous to the health and safety of people or the environment because synthetic pyrethroids are biodegradable and do not bio-accumulate. It is advisable, however, to avoid inhaling dusts and using treated timber for cooking food or domestic heating.

**How do I dispose of waste and off-cuts?**

One of the benefits of using termite protected timber framing is that waste is minimised by treating the timber after it has been dressed and moulded. However any waste which occurs as the result of using treated timber is regarded as non-hazardous because synthetic pyrethroids are biodegradable and do not bio-accumulate.

Normal domestic and trade users can dispose of waste through normal waste collection and disposal services or through industrial incineration.

It is recommended, however, that treated timber off-cuts should not be used as domestic heating or cooking fuel or supplied for mulching or animal bedding.

**How long will the protection last?**

Research conducted by CSIRO and other bodies shows the synthetic pyrethroids used to protect plantation pine timber framing will provide structural integrity against termite and borer attack for at least 25 years.

**Will pre-installation weathering reduce protection?**

Not within the period of normal construction . However, as part of good building practice, it is recommended that termite protected plantation pine frames be stored under cover.

**Is termite protection available across all typical sizes of plantation pine frames?**

Yes.

**Does the treatment affect the performance of nails and plates?**

Synthetic pyrethroid based protectants are non-corrosive and will not impact on the long term holding strength of normal bright steel nails and plates.

**Does the treatment affect paint or adhesives?**

In most situations, timber frames are not visible finished structures and are not painted.

However, if painting is required, steps may need to be taken to avoid discolouration of the paint by any marker dye that is used to show treatment has been successfully applied. A number of commercial sealants and primers are suitable but one should always check with the framing manufacturer before applying any paint material. Once dry, treatment should not affect most adhesives, including plasterboard adhesives, however, further advice should be sought from the adhesive manufacturer or framing timber manufacturer ( see list below).

### **Why are some protectants natural oil-based and others water based?**

A number of plantation pine timber framing manufacturers have chosen to use permethrin-based protection, which works best when applied using a natural oil-base while others have opted to use bifenthrin, which is applied using a water base. Both approaches work equally well.

### **How can I tell if pine framing has been termite protected?**

H2F termite protected plantation pine timber framing is differentiated by most manufacturers by a pale blue stain which is applied at the time of treatment. In practice, the dye may fade during transport and onsite storage and erection, however, termite protected plantation pine frames will be marked with an H2F brand and other information which shows they have been treated. Structural timber components will also be marked or branded with a structural grade.

### **Should termite protected plantation pine framing be handled differently to other timber framing materials?**

No. There is no need to handle or treat H2F termite protected plantation pine framing any differently – use gloves, eye and respiratory protection when handling and cutting timber products.

### **Does termite protected plantation pine framing cost more?**

The price difference between protected and unprotected plantation pine framing is small, typically, the cost of treatment is less than one percent of the value of the average house: a small price to pay for 25 years of added peace of mind and a significantly value-enhanced housing asset.

### **Who manufactures termite protected plantation pine timber framing?**

AKD Softwoods Pty Ltd

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