
Introduction

All preservative formulations used in Australia must be approved for use by the Australian Pesticides and Veterinary Medicines Authority or APVMA. There are two important features of an APVMA approval. Firstly, the approval only applies to wood actually treated in this country. There may be preservative treated wood sold in Australia that has been treated with a preservative not approved by the APVMA. In this case the actual treatment process was not carried out in Australia. Secondly, the APVMA approves a label which sets out how the preservative may be used: In effect, this means that members of the public will not be able to buy the actual preservative.

Wood preservatives may be dissolved in water, oil, or a light organic solvent such as mineral turpentine. This allows a preservative to be classified into one of these three main groups. The list below covers only those preservatives that are used to treat wood to the specifications in Australian Standard AS/NZS 1604* *Timber-Preservative –treated – Sawn and round*". There are five standards in this series dealing with different wood products e.g. sawn and round wood, plywood, particleboard etc.

Water based preservatives (The correct term is 'water-borne')

Timber treated with this group of preservatives has a wide variety of applications, both indoors and outdoors, for residential, commercial, and industrial uses.

- Copper Chrome Arsenate, also referred to as CCA, and the treated wood is green in colour.
- Alkaline Copper Quaternary or ACQ, turns the wood green but a different shade compared to CCA.
- Copper azole (CuAz) turns the wood a brown-green colour.

CCA, ACQ and CuAz react chemically with the wood, making them insoluble and so suitable for use in situations where the treated wood may be exposed to the weather (wetting and rain). This set of preservatives is effective in protecting wood from attack by borers, termites and decay.

Boron-based preservatives are water soluble and do not become insoluble after treatment. Because of this, products that are protected with boron-based

preservatives can only be used in situations where the wood does not get wet. Whilst boron-based preservatives have some ability to protect against rot or decay, this sort of protection is not usually needed because the boron protected wood is used in dry situations (e.g. flooring) and rot or decay does not occur in dry wood.

Oil-borne preservatives

Timber treated with oil-borne preservatives is mainly used for heavy duty construction and in the marine environment. The oil-borne preservatives approved for use in Australia are creosote and pigment emulsified creosote (PEC). Oil-borne treated products include utility poles, rail sleepers and marine piles

Light Organic Solvent Preservatives (LOSP)

LOSP systems are used for products treated in their final shape and form. This includes high value joinery such as balustrades, fascias etc. LOSP treatments are only suitable for products used out of ground contact, and treated products that are destined for outdoor use are often sold with a primer coat of paint. As copper naphthenate is the only coloured LOSP treatment (green), other LOSP treatments may contain a tracer colour. The AS/NZS 1604 specified LOSPs include:

- Tributyl tin naphthenate or TBTN. This is a fungicide (stops decay or rot) and leaves the wood colourless. This preservative must include one of the termite protections (insecticides) listed below.
- Copper naphthenate or CuN. This product is being increasingly used in the US, turns the wood green and is a fungicide only. This preservative must also be used with an insecticide.
- Tebuconazole/propiconazole or teb/prop. Like TBTN, this is a colourless fungicide and must be used with an insecticide.
- The synthetic pyrethroids, permethrin, deltamethrin, bifenthrin, and cypermethrin are used for termite and insect control and have no ability to stop decay. These preservatives are colourless and often have a dye or pigment added. E.g. blue framing.

Glue line additives

This type of preservative does not neatly fit into the three groups of preservative just described. This is because the preservative is added to the glue when products such as plywood or laminated veneer lumber or chipboard are being prepared for gluing. Preservatives in this group currently include two synthetic pyrethroids, imidacloprid and zinc borate.

(*Note: Part 1 of the preservation standard applies in Australia only and Parts 2 to 5 are joint AS/NZS standards.

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