

CCA (COPPER CHROME ARSENATE) TREATED TIMBER

INTRODUCTION

CCA is Australia's most widely used wood preservative. It has been used in Australia for some 50 years. CCA is used to protect wood from rot, fungus, and attack by termites or other wood-boring insects. It is primarily used on pine, providing protection for as long as 50 years. Untreated pine exposed to moisture can rot in less than 12 months.

CONCERNS

The possibility of CCA leaching from treated timbers has caused concern about its likely adverse impact on people (particularly children likely to come into frequent and intimate contact) and the environment.

RESTRICTIONS

The Australian Pesticides and Veterinary Medicines Authority (APVMA) regulates CCA preservative treatments. In July 2012, new restrictions on the supplier and user of CCA were implemented. AS 5605 incorporates the earlier March 2005 APVMA restrictions which include:

- CCA treated timber is prohibited for use in garden furniture, picnic tables, exterior seating, children's play equipment, patio and domestic decking, and handrails.
- Identification of treatment for sawn and round timber to AS/NZS 1604.1 requires each timber piece treated with CCA to be legibly and durably marked (at least for first time use) with a treatment plant identification number, hazard class and chemical number as well as the safety statement 'Treated with copper chrome arsenate'.

Label Requirement of AS 1604



AS/NZS 1604.1 exempts the following elements from branding, except that packs or bundles of these elements are to be pack marked:

- Battens, fence palings and droppers.
- Timber 1500 mm² and less in actual cross-section.
- Timber less than 15 mm nominal sawn thickness dimension.

PERMITTED USE

CCA use is permitted where frequent and intimate contact with people does not occur. This includes power and telegraph poles, fencing, and building uses where frequent contact is unlikely. There is currently no recommendation for existing structures.

GENERAL PRECAUTIONS

- Locate plants (particularly food plants) more than 100 mm from treated garden edgings. Alternatively, line the edges with plastic.

- Do not use CCA treated timber for mulch.
- Do not collect rainwater for drinking from a roof with CCA treated shingles.
- Take appropriate safety and protective measures when working with CCA treated timber. For example: gloves, goggles, mask, good ventilation.
- When fighting fires in areas with CCA treated timber, use breathing apparatus due to smoldering, 'afterglow' and arsine gas release.
- Do not burn CCA treated timber due to toxic fumes and residue. If a fire occurs, clean up immediately afterwards.

CORROSION OF FASTENERS

After treatment, CCA treated timber may have high moisture content, high acidity and high electrical conductivity, all of which can accelerate the corrosion rate of metal fasteners in contact with the treated timber. This has been confirmed by the BRANZ Conference Paper 126, which notes also that stainless steel fasteners had the lowest corrosion rate and performed quite well relative to hot dip galvanized fasteners.

Organisations such as the Queensland Department of Primary Industries Forest Service, recommend that treated timber be withheld from sale for a specific cure period to reduce, amongst other things, fastener corrosion.

DISPOSAL

Currently, small volumes of CCA treated timber waste or off-cuts from domestic or residential uses may be disposed of through normal waste collection services. Trade waste of more than 0.5 tonne per month requires additional approvals.

ALTERNATIVES

The CSIRO and Forest and Wood Products Australia list the following timber preservatives as being more environmentally friendly alternatives:

- Alkaline copper quat (ACQ) currently registered for all hazard classes except H6 (marine use).
- Tanalith E (copper azole) is applicable for H1 to H4 timbers and H5 softwoods.
- Light organic solvent preservative (LOSP) formulations are applicable for H3 timbers and H2 or H3 laminated veneer lumber (LVL).

ACQ and copper azole have been tested and shown to generally perform as well as CCA. Although alternative treatments are more expensive, it is expected that their price will decrease as their use becomes more common. A general concern with restricting CCA use is that consumers will turn to more environmentally harmful materials such as aluminium, steel and concrete due to the additional expense of alternative timber treatment.

Prohibited uses of CCA treated timber



Picnic tables, exterior seating and garden furniture



Children's play equipment



Patios, domestic decking & handrails

Relevant standards

AS/NZS 1604.1 *Preservative-treated wood-based products*
Products and treatment

AS 5605 *Guide to the safe use of preservative-treated timber*

Relevant worksections

- 0181 Adhesives, sealants and fasteners
- 0185 Timber products, finishes and treatment
- 0241 Landscape – walling and edging
- 0242 Landscape – fences and barriers
- 0261 Landscape – furniture and fixtures
- 0342 Light steel framing
- 0381 Structural timber
- 0382 Light timber framing
- 0383 Decking, sheet and panel flooring

Other documents

WoodSolutions 05 - Timber service life - Design guide for durability

Additional information

www.apvma.gov.au
www.publications.csiro.au/publications
www.epa.vic.gov.au/about-epa/publications/1720-1
www.branz.co.nz
www.fwpa.com.au
www.woodsolutions.com.au/timber-preservation