

# Guidance Note

## Preservatives for pressure treatment of wood

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South African Wood Preservers Association



### Introduction

All preservative formulations used for primary pressure treatment of wood in South Africa must be approved and registered for use by the Department of Agriculture, Forestry and Fisheries as agricultural remedies, and also comply with the requirements for use as industrial timber preservatives as specified in the South African National Standard, SANS 10005. The Department of Agriculture, Forestry and Fisheries approves labels which specify how the preservatives shall be used. In effect, this means that members of the public will not be able to buy these actual preservatives.

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 three main groups given below. The list covers only those preservatives that are used to treat wood in accordance with the requirements specified in the applicable South African National Standards that cover preservative treatment and preservative treated products.

### **Water-based preservatives** (The correct term is 'waterborne')

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 (CCA) treatment gives the treated wood a green colour.
- Alkaline copper quaternary (ACQ) treatment turns the wood green but with a different shade compared to CCA.
- Copper azole (CuAz) treatment turns the wood into a brown-green colour.

CCA, ACQ and CuAz react chemically with the wood, which makes them insoluble and therefore suitable for use in situations where the treated wood may be exposed to the weather (i.e. wetting and potential leaching of chemicals). CCA-, ACQ- and CuAz-treated timber is therefore suitable for use in hazard classes H2 to H5 (see Guidance Note on Hazard classes). This set of preservatives is effective in protecting wood from decay and attack by wood-boring insects and termites.

Boron-based preservatives are water-soluble and do not become insoluble after treatment. Because of this, timber 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 the ability to protect against rot or decay, this sort of protection is usually not 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 South Africa are creosote and mixtures of coal-tar and creosote. Oil-borne treated products include utility poles, railway sleepers, agricultural poles, fencing etc. and is therefore suitable for use in H3 to H5 hazard classes.

NOTE Timber products treated for applications in direct contact in South African coastal marine waters (hazard class H6), e.g. marine pilings, are dually treated with both CCA and creosote.

## **Light organic solvent preservatives (LOSPs)**

LOSP systems are used for products treated in their final shape and form. This includes high value joinery such as balustrades, flooring and fascias. In South Africa LOSP treatments are only suitable for products used under interior dry and out-of-ground contact (H2) applications. LOSP treated products that are destined for outdoor above-ground use must be coated and maintained with an exterior wood sealer. The approved LOSPs used in South Africa are:

- Tributyltin naphthenate-permethrin (TBTN-P). This is a fungicide (prevents decay or rot) combined with an insecticide (prevents wood-borer attack) and leaves the wood colourless.
- Azole permethrin. Like TBTN, this is a colourless fungicide and insecticide combination wood preservative.

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