

Guidance Note

Preservatives for pressure treatment of wood

May 2024



South African Wood Preservers Association

Introduction

All wood preservative formulations used for primary pressure treatment of wood in South Africa must be approved and registered for use by the Registrar of Act 36 of 1947 at the (Department of Agriculture) 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 Registrar of Act 36 of 1947 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-borne preservatives

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, i.e. hazard class H2. 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. Boron preservatives are colourless and leave the wood in its natural finish after treatment. If boron treated wood is used in exterior above ground applications, it must be coated and maintained with an exterior wood sealer.

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. First with CCA, then re-seasoned and treated with 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 etc. 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 LOSP used in South Africa contains Azole and permethrin as actives. This is a colourless fungicide and insecticide combination wood preservative.

DISCLAIMER: SAWPA believes this Guidance Note is based on up-to-date information and is intended for general information purposes. In furnishing this information, SAWPA makes no warranty or representation, either expressed or implied, as to the reliability or accuracy of such information, nor does SAWPA assume any liability resulting from use of or reliance upon the information by any party. This document should also not be construed as a specific endorsement or warranty, direct or implied, of treated wood products or preservatives, in terms of performance, environmental impact, or safety. The information contained herein should not be construed as a recommendation to violate any state or local government law, rule or regulation, and any party using or disposing of treated wood products should review all such laws, rules or regulations before disposing of treated wood products.

