



# TROPEX EXPORTS LTD

*Setting the Standard*

## Timber Preservatives – What are my options?

### Synthetic pyrethroids

Cypermethrin, deltamethrin and permethrin are approved actives for protection from wood borers (hazard class H1.1 and H1.2).

These actives may also be used for treated to H2 (for export) and where required for H3.1.

### Borates

Boron preservative are water based 'non fixed' preservatives. The borates are recognised as being effective against both wood borers, termites and decay fungi at appropriate concentrations.

The borate concentration required for each hazard class increases with the biological hazard; H1.1, H1.2, H3.1.

The H3.1 borate treated timber is required to have a primer coating before dispatch from the treatment facility.

This provides additional protection for the treated product up to and during construction. Weatherboard, fascia and joinery products treated to H3.1 are required to have a 3-coat paint system.

### CCA - Copper chromium arsenate

CCA is the only preservative that can be used for all hazard classes. This preservative has a long history of use. It remains the preferred most cost effective preservative for the H3.2 to H6 hazard classes.

Although solutions of CCA are highly toxic, once the solution is in the wood, complex chemical reactions occur which firmly bind CCA to the wood, making it exceedingly resistant to washing out. Processes have been developed to accelerate this fixation process to minimise or even eliminate the possibility of environmental contamination associated with the use of CCA. However, where environmental or health legislation has forced restrictions on lumber treated with CCA, there are alternative formulations which are ideally suited for treatment of New Zealand pine. These include amoniactal copper quaternaries (ACQ), copper azoles, copper HDO and copper dimethyldiocarbonate (DMDC).

## **Copper azole and Alkaline Copper Quaternary**

Copper azole (CuAz) and copper quaternary (ACQ), like copper-chromium-arsenic (CCA) preservatives, are water based and being very resistant to leaching, are particularly suitable for use in ground contact situations, or where the treated timber is constantly exposed to the weather.

These preservative types offer an alternative to CCA for some applications and particularly for exported timber where there may be restrictions on the types of preservative treatment able to be used.

## **Creosote**

Creosote is used for treating railway cross-ties and electric power transmission poles. Creosote treatment of sawn New Zealand pine is particularly effective because deep penetration of the heartwood can be achieved.

## **LOSP - Light Organic Solvent Preservative**

The term LOSP refers to preservative actives applied in a hydrocarbon solvent ("white spirit"). LOSPs are used for the treatment of fully machined componentry and fabricated commodities. Their main advantage is that, unlike water-borne preservatives, they cause no swelling of the wood during treatment and require no secondary air or kiln drying after treatment.

Synthetic pyrethroids, IPBC (iodocarb), tributyl tin (TBT) compounds, copper naphthenate and azoles (propiconazole and tebuconazole) are all preservative actives used in LOSP formulations.

They are frequently formulated with water repellent additives (waxes and resins), which may also serve to "bind" the actives to the wood to help prevent redistribution when the carrier solvent evaporates.

The LOSP preservatives are used for hazard classes H1.1, H1.2 and H3.1 although approvals are specific to certain actives or combinations of actives.

*Source: NZ Wood*