

# STRUCTURAL BUILDING COMPONENTS MAGAZINE

November 2003

## WTCA's Background Information Regarding New Wood Preservative Treatments by WTCA Executive Committee

*At the WTCA Board of Directors meeting last August, a roundtable discussion took place on issues relating to these new wood preservatives and the potential corrosive effects of such preservatives.*

In February 12, 2002, the leading wood preservative manufacturers entered into an agreement with the Environmental Protection Agency (EPA) to voluntarily withdraw the use of CCA from most consumer applications by the end of 2003. As a result, Arch Wood Protection, Inc. (formerly Hickson), Chemical Specialties, Inc. and Osmose, Inc. announced their decision to amend their respective CCA registrations with the EPA.<sup>1</sup>

After December 31, 2003, CCA may be used to treat only wood and forest products falling under the American Wood-Preservers' Association (AWPA) Commodity Standards set forth on the label. The following list is taken from the 2001 edition of the AWPA, which would include the following:<sup>2</sup>

- Lumber and Timber for Salt Water Use Only (AWPA Standard C2)
- Structural Lumber and Timbers in Salt Water Use and Subject to Marine Borer Attack Piles (AWPA Standard C3)
- Poles (AWPA Standard C4)
- Plywood (AWPA Standard C9)
  - Agriculture, Wood Used on Farms
  - Boat Building Material
  - Building Construction Material Roof Decking, Plywood
  - Decking, Tongue and Groove Flooring, Plywood Subflooring, plywood
  - Decking Roof, Plywood
  - Plywood Sub-floor, Damp, Above Ground Exterior, Above Ground Soil Contact
- Wood for Highway Construction (AWPA Standard C14)
- Poles, Piles and Posts Used as Structural Members on Farms, and Plywood Used on Farms (AWPA Standard C16)
- Wood for Marine Construction (AWPA Standard C18)
- Lumber and Plywood for Permanent Wood Foundations (AWPA Standard C22)
  - Softwood Lumber: Foundation Grade (FDN) Stamp Required
  - Softwood Plywood: Foundation Grade (FDN) Stamp Required
- Round Poles and Posts Used in Building Construction (AWPA Standard C23)
- Sawn Crossarms (AWPA Standard C25)
- Structural Composite Lumber (AWPA Standard C33)
  - Highway Material and Above Ground
- Shakes and Shingles (AWPA Standard C34)

The goal of the EPA was to limit CCA use to lumber and posts that would not typically get into the hands of a consumer. Unfortunately, that means that all dimension lumber (2x4, 2x6, 2x8, 2x10, 2x12, 4x4, 4x6, etc.) used in the truss industry will not be available for purchase when treated with CCA after December 31, 2003.

The alternative treatments that may take the place of CCA that exist at this time in the market include:

- **Ammoniacal Copper Quat (ACQ-A, B, C):** Copper combined with a low toxicity co-biocide. ACQ Preserve, by Chemical Specialties, Inc. (CSI) is ACQ-A.
- **Amine Copper Quat (ACQ-D):** NatureWood by Osmose, Inc. is ACQ-D
- **Copper Azole-Type A (CBA-A):** A copper combined with an azole co-biocide and boron product. Wolmanized Natural Select by Arch Wood Protection is CBA-A.
- **Copper Azole-Type B (CA-B):** A copper combined with azole co-biocide product. Wolmanized Natural Select by Arch Wood Protection is CA-B.
- **Borate Oxide (SBX):** Wood products treated with Sodium Borate (SBX) or Disodium Octaborate Tetrahydrate (DOT), except they are not recommended for direct ground contact and are water-soluble. AdvanceGuard lumber by Osmose, Inc., SmartGuard products from Louisiana Pacific, and EnviroSafe Plus from EnviroSafe™ Wood Treatment Products, LLC are SBX products.

Preservative Types	Popular Brand Names	History/Uses
<p style="text-align: center;"><b>Alkaline Copper Quat (ACQ)</b></p>	<p>Preserve®</p> <p>Preserve Plus® (built-in water repellent)</p> <p>Nature Wood®</p> <p>Nature Wood® with water repellent</p>	<p>ACQ-treated wood was first introduced in the United States 10 years ago. It has been successfully used in Europe, Japan, New Zealand, Asia, and Australia for the last 15 years. Uses: ACQ is a fixed preservative approved for full exposure to above ground, ground contact, and freshwater applications.</p>

<p>Copper Azole(CBA-A) Copper Azole CA-B)</p>	<p>Wolmanized® Natural Select™ Wolmanized® Natural Select™ with water repellent</p>	<p>Wood products treated with Copper Azole have been used effectively around the world since 1992. Uses: Copper Azole is a fixed preservative approved for full exposure to above ground, ground contact, and freshwater applications.</p>
<p>Sodium Borates (SBX)</p>	<p>Advance Guard® SillBor™ TimberSaver PT®</p>	<p>Wood products treated with Borates were initially established in New Zealand in 1950. Before being introduced into the United States more than 10 years ago, Borates were widely used in New Zealand, Europe, and Southeast Asia. Uses: Borates are a diffusible preservative approved only for above ground applications that are continuously protected from liquid water, such as sill plates and other enclosed structural framing.</p>

This table represents several of the leading preservative types and popular brand names available to date (May 2002). Additional preservative types and brand names may enter the market in the coming months. (from SFPA web site, "The New Generation of Wood Preservatives," [www.southernpine.com](http://www.southernpine.com))

## KEY FACTS

At the WTCA Board of Directors meeting last August, a roundtable discussion took place on issues relating to these new wood preservatives (and the potential corrosive effects of such preservatives). The following bullet points summarize the discussion from the meeting:

- The treating industry has always recommended the use of hot dipped galvanized steel for CCA treated lumber, even when that lumber is used in the manufacture of trusses.
- The wood preservative industry at this time will only recommend the use of either stainless steel or G185 galvanized steel with the ACQ and CBA treatments.
- The treated wood companies will not stand behind the product performance of metal connectors and connection systems (e.g. truss plates, hangers and nails) if G60 galvanized steel connectors are used.
- However, Simpson Strong-Tie's testing has showed that G90 galvanized steel connectors performed well in wood products treated with Sodium Borate (SBX) or Disodium Octaborate Tetrahydrate (DOT).
- With respect to metal plate connectors used in the manufacturing of trusses, if thicker galvanizing or stainless steel is used, assuming it is available, truss plate design values will decrease and costs will certainly increase.
- The question was asked if it was technically possible to produce a G185 plate and the short answer at this time is no. Producing a connector plate with a thicker coating will affect the speed and longevity of the dies and cost of materials.
- Where the plate companies differ substantially from the treating companies' information is that there appeared to be a good bit of corrosion where any steel punches were made. In the truss plate case, we are dealing with a 3/8" tooth punched out of 20-gauge steel and we have been assuming that the zinc galvanizing will flow to the raw steel surface of the punched out tooth. The plate truss companies are thus very concerned about the corrosion issue with regard to this punching process.

## WTCA PERSPECTIVE ON THE USE OF PRESERVATIVE TREATED LUMBER

Simpson, USP, Arch Chemical and Chemical Specialties provided WTCA with presentations outlining the issues surrounding the new generation of preservative treatments. Download these presentations and all the test results contained in the presentations:

- [arch.pdf](#)
- [simpson.pdf](#)
- [usp.pdf](#)

It is clear from the information provided that the long-term, actual in-service effects of these alternative treatments on truss plates and related connection systems when they are used in the manufacturing of trusses, wall panels and related structural building components is unknown. Therefore, it is highly recommended that any manufacturer that is requested to build trusses or wall panels with lumber treated out of these new preservative treatments do so with caution and with the proper assurances from both your truss plate and connection supplier.

WTCA is also recommending that the preservative treatment suppliers, TPI and related connector suppliers undertake testing to determine how to use these alternative treatments

safely and efficiently in the variety of environments in which preservative treated trusses, wall panels and related structural components are used.

---

<sup>1</sup> From Southern Forest Products Association (SFPA) web site - TREATED WOOD INDUSTRY IN TRANSITION [www.southernpine.com](http://www.southernpine.com)

<sup>2</sup> From SFPA web site - "PRODUCTS THAT MAY CONTINUE TO BE TREATED WITH CCA AFTER DECEMBER 31, 2003" [www.southernpine.com](http://www.southernpine.com)

---

### [SBC HOME PAGE](#)

Copyright © 2003 by Truss Publications, Inc. All rights reserved. For permission to reprint materials from SBC Magazine, call 608/310-6706 or email [editor@sbcmag.info](mailto:editor@sbcmag.info).

The mission of Structural Building Components Magazine (SBC) is to increase the knowledge of and to promote the common interests of those engaged in manufacturing and distributing of structural building components to ensure growth and continuity, and to be the information conduit by staying abreast of leading-edge issues. SBC will take a leadership role on behalf of the component industry in disseminating technical and marketplace information, and will maintain advisory committees consisting of the most knowledgeable professionals in the industry. The opinions expressed in SBC are those of the authors and those quoted solely, and are not necessarily the opinions of any of the affiliated associations (SBCC, WTCA, SCDA & STCA).