

To Whom It May Concern:

RE: Douglas fir Crossties, Switchties, and Bridge Members.

Conrad Forest Products would like to introduce an alternative preservative treatment and wood specie for use in your railroad lines. The wood specie is Douglas fir and is treated with a waterborne preservative, ACZA, to a retention of .40 lbs. per cubic foot.

Conrad Forest Products can supply ties, bridge timbers or piling at a cost 20 % less, and sometimes even much lower, depending on the location, than conventional oil borne track materials. The ties are graded by WCLB and are No.1 full sawn rough, pressure treated to Standard U1 commodity specification C to UC4A of the AWPA Book of Standards, which meets AREMA. The treatment of Hardwoods and Southern Yellow Pine with ACZA was also approved by AWPA for Crossties and Switchties and is available in limited quantities. These standards of treatment are based on penetration and retention of the preservative established by peer review of the AWPA and not to refusal; which does not constitute an acceptable alternative to the minimum penetration and / or retention requirements specified under results of treatment.

Developed by University of California researchers in the 1920s specifically for difficult-to-treat western softwoods, Chemonite (ACZA) is a waterborne preservative made of metallic oxides of copper, zinc and arsenic in an aqueous ammonia solution.

We are required to test and comply with American Wood-Protection Association Standards and to meet applicable building codes for quality, penetration and retention. An ALSC accredited Third-party inspection agency continually monitors our plant's output and testing procedures. Other waterborne preservatives cannot consistently meet accepted standards of penetration and retention in Douglas fir timbers. When you choose Chemonite treated wood from Conrad Forest Products, you minimize risk and maximize return in the form of longer service life and even easier handling.

Today's Chemonite® contains a 2:1:1 ratio of copper oxide, zinc oxide and arsenic pentoxide, respectively. The arsenic component remains in the wood preservative solution because of its proven insecticidal and fungicidal properties.

The individual components are blended to produce the Chemonite®ACZA preservative which is designed to do several things:

Provide a broad spectrum of protection against targeted wood destroying organisms and insects.

Penetrate deep into the wood cells providing an effective envelope of protection.

Remain in the wood at designated concentrations for its intended use. (Leach resistance)

Leave the surface of the treated wood consistently cleaner from chemical deposits and even receptive to painting if desired.

The addition of zinc not only reduced the arsenic level by one half, but it also provided a second metal cation, which is important to establish the stability of the chemical inside the wood. This mechanism is referred to as stabilization. It involves the attachment of the preservative components, once soluble in water, to the cells of the wood or each other, thus helping to make them insoluble to water after the stabilization process occurs. This stabilization process of the preservative allows this waterborne preservative system to be used successfully even in aquatic environments.

While other preservatives have experienced excessive loss of their constituents in an immersed aquatic environment, ACZA has performed superbly. Scientific information is available to support the claims of chemical stabilization and help prevent the leaching or loss of the preservative. The Oregon State University did a study in a wetland using Douglas fir decking and timbers treated with Chemonite® ACZA. The material installed for this test indicated an insignificant loss of chemical showing little change from the natural background levels established for these sites. The material for this test was produced using Best Management Practices (BMPs) which are guidelines established by the Western Wood Preservers Institute to reduce the effects of treated wood when used in environmentally sensitive or aquatic environments. These BMPs are often used at the treating plant and are available at an added cost to produce material having little or no surface residue, chemical levels specific to exposure condition, and accelerated stabilization of the preservatives in the wood to minimize leaching in shorter periods of time than normal production.

Conrad Forest Products has another product called H2O Water Block which, if necessary, coats the tie to reduce water uptake and slow the leaching process where specifications require the coating of treated wood in environmentally sensitive areas. Exposure studies of ACZA treated wood in soil by Texas A&M Laboratory concluded ACZA is not harmful for garden use, finding only natural levels of arsenic in the soil beds contained by treated timbers for 9 years. In addition, the US Forest Products Laboratory has over forty years of research showing no evidence of sufficient chemical depletion that would pose a risk to human health or the environment.

If you have concerns about a specific application of Chemonite® ACZA material for your project, or would like to have additional information, please contact Conrad Forest Products. We will be happy to assist in getting the information you need to make an informed decision.

Additional considerations:

History of service with Utility products, transportation structures and

bridges, docks and marinas, or other unique engineering and architectural applications where long-lasting structural integrity and attractive appearance is mandatory.

Paintable surface

Proven effectiveness against Formosan and subterranean termites.

Extremely efficient protective barrier against carpenter ant invasion

Acts as a deterrent to woodpecker attack.

Unequaled consistent depth of penetration into structural Douglas fir timbers or lumber.

ACZA treated material is the Standard for comparison in effectiveness of treatment in Douglas fir for new preservative systems in AWP.

Douglas fir treated to a retention of .40 per cubic foot tested at the Underwriters Laboratories passed Class II flame spread requirements, the preliminary test indicated about the normal flame spread of untreated Douglas fir which is 70 to 100. Needless to say much better than oil borne preservatives currently used on railroad ties.

Our facilities have the ability to provide complete on site quality control tests.

Testing at Oregon State University has shown improved nail withdrawal resistance in Chemonite treated wood.

Heated preservative system can allow sterilization during treatment which is not possible using other waterborne treatment systems.

Properly conditioned and used, Chemonite does not contribute to corrosion of metal fasteners and connectors.

Ties can be end plated with 6x7 18ga. Galvanized plates that meet ASTM A653/A653M.

A 25-year warranty is available for crossties that contain a dual treatment of ACZA/ DOT Borate pressure-treated wood to prevent deterioration due to fungi or termite infestation.

Thank you for your consideration and again if you need any additional information please contact us.

CONRAD FOREST COMPANY