

CHEMONITE® CROSSTIES

Douglas Fir Crossties Protected by ACZA Treatment

Douglas fir and ACZA is a match made for heavy duty applications. The strength and resilience of Douglas fir, combined with the long-term protection of Ammoniacal Copper Zinc Arsenate (ACZA) preservative, yield a construction material that has been providing reliable service for decades – in utility poles, building poles, foundation piling, bridge girders, guardrail posts, roller coasters, marine piling, and other demanding applications.

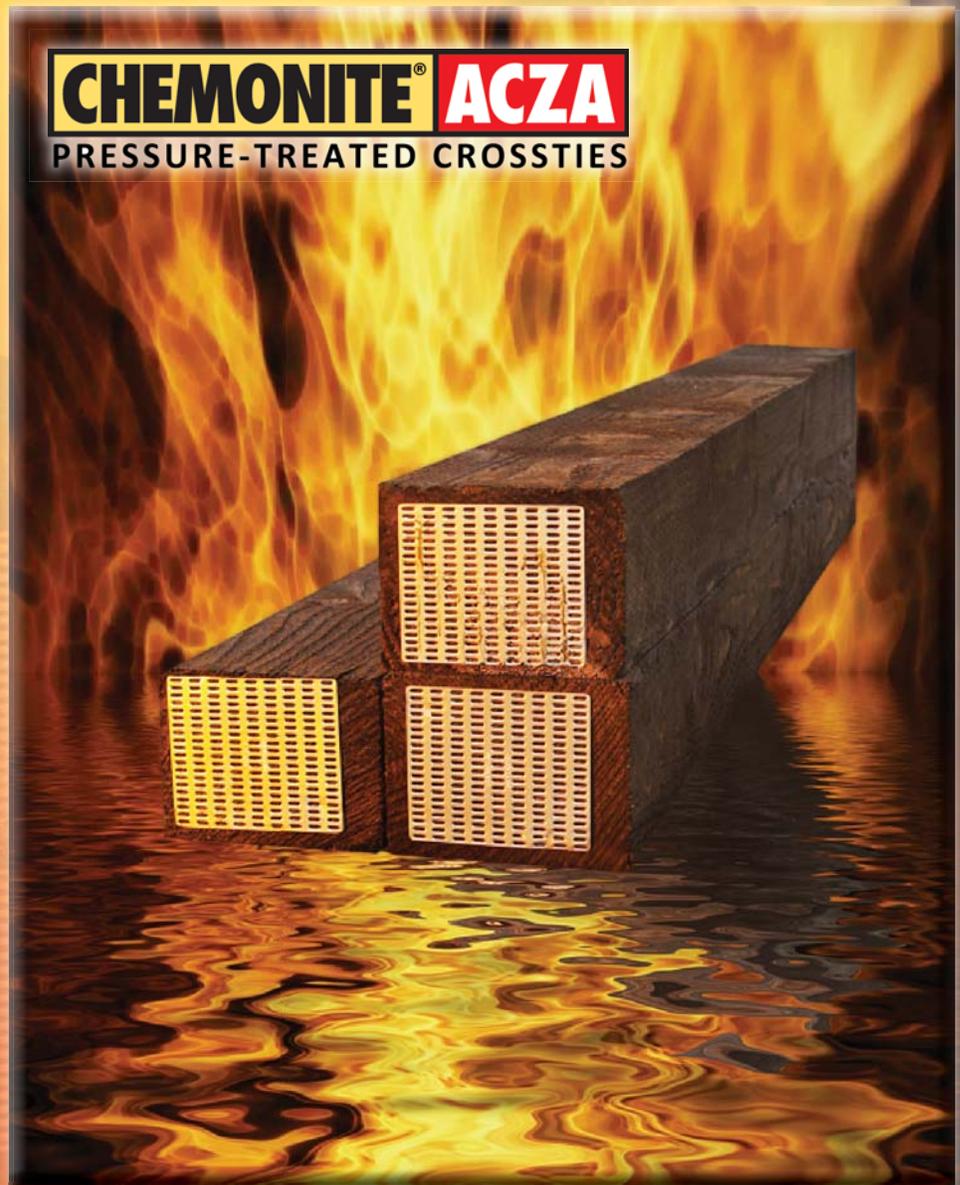
These attributes, plus advantageous environmental and handling features, make ACZA-treated Douglas fir an exceptional choice for shortline crossties. They are also economical; Douglas fir is a readily available species grown on managed timberlands in western states.

PROVEN. Development of the original copper arsenate solution began in the 1920s. The current formulation, ACZA, was accepted in the standards of the American Wood Protection Association in 1984.

A quarter-century of successful use attests to the effectiveness of ACZA-treated wood. Crossties and switchties are listed in AWP Standard U1, Commodity Specific C, as appropriate uses for ACZA treatment (Use Category UC4A at 0.40 pcf). Tests have also shown that the treatment reduces flame spread.

LONG-LASTING. Chemonite® ACZA-treated wood is resistant to damage from termites and fungal decay. When used in an application for which it is intended, Chemonite wood can be expected to last for decades.

STRENGTH. The strength of crossties is not perceptibly affected by the treatment.



Chemonite® crossties meet the requirements of AREMA, and are now available with borate additive for deeper protection.

CORROSIVITY. Years of use under extreme conditions have revealed no structural failures due to corroded hardware. However, in some designs and environmental conditions, the use of hot-dipped galvanized or stainless steel hardware is recommended.

FASTENER HOLDING. Douglas fir has excellent spike-holding characteristics which are not diminished by the preservative chemical or the treating process.



CONDUCTIVITY. Tests have indicated that the metallic oxides in ACZA are not conductive. Regardless of the test method used, a bigger factor than wood species or preservative was moisture, which affects all types of treated wood cross-ties.

GAGE-HOLDING. Douglas fir ties were installed in the High Tonnage Loop of the Transportation Technology Center's Facility for Accelerated Service Testing. These ties remained in service for more than 1,000 Million Gross Tons of freight traffic. Regaging was not necessary until approximately the 200 MGT mark.



USE & HANDLING. Handling Chemonite cross-ties does not necessitate unusual safety measures beyond those recommended for most other construction materials. These include: Wear gloves when handling, wear safety glasses and dust mask when drilling or sawing, and do not burn treated wood.



For prices and other order details, contact:

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DISPOSAL. State and local requirements vary, but, in general, lined landfills accept retired Chemonite cross-ties and scraps in accordance with the same requirements that apply to other building materials. Where questions exist, confirmation from the appropriate local authority is recommended.

ENVIRONMENT. Chemonite cross-ties share the many environmental attributes of wood itself – most notably: renewable resource, low-energy production, and carbon sequestration. The preservative process adds to these benefits by extending service life, thereby reducing demands on forests and transportation of replacement material. Furthermore, ACZA bonds chemically to wood cells as insoluble precipitates, becoming very leach-resistant. The wood surface is non-oily and clean-to-the-touch, even in high temperatures or salt water.

BENEFITS OF BORATE ADDITIVE. Douglas fir cross-ties, dual-treated with ACZA and borates, are an option. Like ACZA, borates have a long history of effective decay prevention. They have been used for decades to protect sill plate, and have supplemented other preservatives in protecting hard-to-treat species of wood. The borates diffuse deep into these species, as confirmed by tests on hardwoods at Mississippi State University. The result is protection of inner areas that might otherwise be vulnerable to decay when exposed by cracks or wear. Borates also inhibit corrosion, enabling spikes to maintain their integrity for a longer period of time and thus hold gage longer. Treatment with borate additive is available from Conrad Forest Products.

OTHER OPTIONS. In addition to the borate additive, cross-ties can be ordered in custom sizes, with special milling, with plated ends, and coated with silicone sealer (AntiBlu® H₂O Water Block).