

BEST MANAGEMENT PRACTICES

CCA—Chromated Copper Arsenate AMENDMENT #1 (October 25, 2006) Chapter 3: Part B4: Page 15

a. Hot Water Bath (Liquid Fixation Processes), Maximum Temperature: 220°F (105°C)

Duration: Until the outer 0-0.5 inches (0-12mm) portion in 4 out of 5 borings per charge pass the Chromotropic Acid Test (AWPA Standard A3, Method 11). In using this post-treatment procedure, do not exceed the maximum time-temperature combination listed below:

Temperature/Time:	▶ 220°F (105°C)	6 hr.
	▶ 203°F (95°C)	9 hr.
	▶ 185°F (85°C)	12 hr.
	▶ 167°F (75°C)	18 hr.
	▶ 149°F (65°C)	24 hr.

c. Steaming Processes, Maximum Temperature: 220°F (105°C)

Duration: Until the outer 0-0.5 inches (0-12mm) portion in 4 out of 5 borings per charge pass the Chromotropic Acid Test (AWPA Standard A3, Method 11). In using this post-treatment procedure, do not exceed the maximum time-temperature combination listed below:

Temperature/Time:	▶ 220°F (105°C)	6 hr.
	▶ 203°F (95°C)	9 hr.
	▶ 185°F (85°C)	12 hr.
	▶ 167°F (75°C)	18 hr.
	▶ 149°F (65°C)	24 hr.

ACC—Acid Chromated Copper ADDENDUM #1 (February 28, 2007) PART B: Chapter 4

ACC – Acid Chromated Copper

Best Management Practices

The BMPS for ACC are designed to minimize preservative migration from ACC treated wood. The following BMP, as well as the general guidelines referenced in Chapter 3, Part A shall be utilized.

Treating Techniques

Full cell (Bethel) pressure treatment is recommended for most western species. Modified full cell procedures should be limited to sapwood species, e.g., Southern Yellow Pine. Preservative solution quality should be closely monitored.

Post Treating Procedures

Apply appropriate post treatment procedures to maximize preservative fixation by one of the following technologies, which may be chosen as a function of time, temperature and humidity, and must be adjusted based on the characteristics of the material and the process:

- Air Seasoning
- Kiln Drying
- Steam Conditioning
- Hot Water Bath

The best available technology for confirming fixation in ACC treated material is the Chromotropic Acid Test (AWPA Standard A3-11, Method for determination of the presence of Hexavalent Chromium in treated wood, [1995]). If testing shows that fixation has not been achieved according to the Chromotropic Acid Test, the material should not be shipped until fixation according to the Chromotropic Acid Test is confirmed.

■ Technical Notes

Specifiers and installers should follow the guidance in the ACC treated wood Material Safety Data Sheets (MSDS) and hazard labels as required by OSHA and use the product in conformance with the Consumer Information Sheet for Acid Copper Chromate and all product labeling.

ACC wood is considered an excellent treatment for most softwood species, (except for SPF). Achieving the required penetration in Douglas fir may be extremely difficult.

Fixation In the ACC treating process, water is the carrier to move the metal oxides or active ingredients into the wood where they become fixed to the wood. Once the chemical reaction called “fixation” occurs, the potential for migration of active ingredients is minimized.

While a complex reaction, fixation, which is the function of temperature, and time, essentially involves the reduction of hexavalent chromium to trivalent chromium with the formation of a complex mixture of insoluble copper chromates. Chromic Acid or Chromium VI is the component in the ACC process which is the basis for the Chromotropic Acid Test.

The procedure can detect Chromium VI at concentrations as low as 15 parts-per-million. Material passing the test (i.e., no detection of Chromium VI) for use in aquatic environments will be 99.5 to 99.95% fixed. The Chromotropic Acid Test is a rigid qualitative procedure specifically for CCA and ACC treated wood.

Fixation Period The following post-treatment processing limits have been found to significantly enhance preservative fixation while also avoiding conditions which could cause losses in mechanical properties.

The time-temperature limitations specified below are appropriate for all species and can be found in the appropriate AWPA specification.

a. Hot Water Bath (Liquid Fixation Processes),

Maximum Temperature: 220°F (105°C)

Duration: Until the outer 0-0.5 inches (0-12mm) portion in 4 out of 5 borings per charge pass the Chromotropic Acid Test (AWPA Standard A3, Method 11). In using this post-treatment procedure, do not exceed the maximum time-temperature combination listed below:

Temperature/Time:	▶ 220°F (105°C)	6 hr.
	▶ 203°F (95°C)	9 hr.
	▶ 185°F (85°C)	12 hr.
	▶ 167°F (75°C)	18 hr.
	▶ 149°F (65°C)	24 hr.

b. Air and /or Kiln Drying Processes, Maximum Dry-bulb

Temperature: 160°F (70°C), Maximum Wet-bulb Depression:

20°F (10°C) until the outer 0-0.5 inches (0-12mm) portion in 4 out of 5 borings per charge pass the Chromotropic Acid Test (AWPA Standard A3, Method 11).

c. Steaming Processes, Maximum Temperature: 220°F (105°C)

Duration: Until the outer 0-0.5 inches (0-12mm) portion in 4 out of 5 borings per charge pass the Chromotropic Acid Test (AWPA Standard A3, Method 11). In using this post-treatment procedure, do not exceed the maximum time-temperature combination listed below:

Temperature/Time:	▶ 220°F (105°C)	6 hr.
	▶ 203°F (95°C)	9 hr.
	▶ 185°F (85°C)	12 hr.
	▶ 167°F (75°C)	18 hr.
	▶ 149°F (65°C)	24 hr.



**WESTERN WOOD
PRESERVERS INSTITUTE**

7017 N.E. Highway 99 • Suite 108 • Vancouver, WA 98665
360-693-9958 • 800-729-WOOD • Fax 360-693-9967
Web: www.WWPInstitute.org • E-Mail: info@WWPInstitute.org

DISCLAIMER: The Western Wood Preservers Institute believes the information contained herein to be based on up-to-date, scientific and economic information and is intended for general information purposes. In furnishing this information, the Institute makes no warranty or representation, either expressed or implied, as to the reliability or accuracy of such information; nor does the Institute assume any liability resulting from use of or reliance upon the information by any party. This document should not be construed as a specific endorsement of 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 federal, provincial, state or municipal law, rule or regulation, and any party using or producing pressure-treated wood products should review all such laws, rules or regulations prior to using or producing treated wood products.