ORIGINATION FORM

THE INFORMATION BELOW IS TO BE PROVIDED BY THE ORIGINATOR

☐ Modify Specification _____955_____.
Section/File number

☐ New Section _____.
Section number

Subject: Lumber and Timber Treatment (Including Treating Materials)

Origination date: April 29, 2005

Originator: Ghulam Mujtaba
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RT822GM

Problem statement: The use of CCA will not be allowed for the treatment of fence posts and pedestrian bridges and guardrails on golf courses. Special types of fasteners and connectors will be used for the ACQ and CCA woods.

Information source: The information is based on the current literature review and manufacturer's specification.

Background data: Section 955 has allowed the use of CCA for treatment of timber products. Since December 31, 2003, the use of this preservative has been banned in some applications. In those applications new preservatives such as ACQ and CA are used. The proposed 955 has specified the use of each preservative for a particular application. Copper Azole for wood treatment. The treatment of the wood products for the pedestrian bridges and/or guardrails on golf courses and fence posts are limited to the use of Copper Azole (CA) or Amine Copper Quat (ACQ). The use of Chromated Copper Arsenate (CCA) has been specified for treating of timber in salt (or brackish) water environments. The modified test methods are in accordance with the updated requirements of the American Wood Preservers' Association Standards.

Recommended Usage Note: All jobs

Florida Department of Transportation

JEB BUSH
GOVERNOR

605 Suwannee Street
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JOSÉ ABREU
SECRETARY

MEMORANDUM

DATE: May 27, 2005

TO: Specification Review Distribution List

FROM: Duane F. Brautigam, P.E., State Specifications Engineer

SUBJECT: **Proposed Specifications Change: 9550000 - Lumber and Timber Treatment (Including Treating Materials)**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change to Section 955.

This change was proposed by Ghulam Mujtaba of the State Materials Office to update Section to reflect current requirements..

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or to my attention via e-mail at SP965DB or duane.brautigam@dot.state.fl.us. Comments received after June 24, 2005 may not be considered. Your input is encouraged.

DFB/jf

Attachment

COMMENTS:

Submitted by: Phone #:

LUMBER AND TIMBER TREATMENT (INCLUDING TREATING MATERIALS).
(REV 5-25-05)

SECTION 955 (Pages 867-869) is deleted and the following substituted:

SECTION 955
TIMBER TREATMENT
(INCLUDING TREATING MATERIALS)

955-1 General.

The work specified in this Section is the treating of structural timber, timber piling and timber posts. The method of treatment for all such timber materials shall be in accordance with the American Wood Preservers' Association (AWPA) *Use Category Standard (USC) - U1,* ~~Standards,~~ with the exceptions and additions as specified herein.

955-2 Preservative.

955-2.1 Salt or Brackish Water Use: *The treating of Southern Yellow Pine (SYP) lumber or timber for use in salt or brackish water environments shall be done with Chromated Copper Arsenate (CCA).*

955-2.2 Above Ground or Ground Contact and Fresh Water Immersion Use: *The treating of SYP lumber and timber for above ground or ground contact and fresh water immersion applications, shall be done with Copper Azole-Type B (CA-B), Amine Copper Quat-Type D (ACQ-D), or CCA, with the following exceptions:*

The treatment of the wood products of the pedestrian bridges, wood rails at buildings or rest areas, and fence posts shall be done either with Copper Azole-Type B (CA-B) or Amine Copper Quat-Type D (ACQ-D).

~~The treating of Southern Yellow Pine (SYP) timber shall be with Amine Copper Quat-Type D (ACQ-D) or Chromated Copper Arsenate (CCA), for above ground, ground and fresh water immersion applications. The treating of timber (SYP) for use in salt (or brackish) water environments shall be with Chromated Copper Arsenate (CCA). Ammoniacal Copper Arsenate (ACA) may be substituted to treat Pacific Coast Douglas Fir if Southern Yellow Pine cannot be purchased.~~

955-3 Process.

All timber *and lumber* items shall be treated ~~by the modified full cell process~~*in accordance with standard T1 of the AWPA manual*.

955-4 Requirements for Preservative Materials.

Amine Copper Quat-Type D (ACQ-D), Chromated Copper Arsenate (CCA), Copper Azole-Type B (CA-B), Ammoniacal Copper Zinc Arsenate (ACZA) shall be in accordance with AWPA P5.

~~**955-4.1 Amine Copper Quat-Type D (ACQ-D):** The test methods for ACQ-D shall meet the requirements of AWPA Standards A2 and A17.~~

~~**955-4.2 Chromated Copper Arsenate (CCA) shall be of the following composition:**~~

~~CHEMICAL COMPOSITION REQUIREMENTS FOR CHROMATED COPPER ARSENATE~~		
	~~Minimum (%)~~	~~Maximum (%)~~
~~Hexavalent Chromium, as CrO_3~~	~~33.0~~	~~50.5~~
~~Copper, as CuO~~	~~17.0~~	~~22.0~~
~~Arsenic, as As_2O_5~~	~~30.0~~	~~48.0~~

~~The active ingredients in the solution shall be in proportions within the range required for the salt itself.~~

~~The pH of the treating solution shall be between 1.6 and 3.2.~~

~~The tests for CCA shall meet the requirements of the standard methods of the American Wood Preservers' Association, Standard A2. The Department's State Materials Office will acquire random test samples of the preservatives.~~

~~When Douglas Fir is used, ammoniacal copper arsenate shall be used as the salt preservative in lieu of chromated copper arsenate. Ammoniacal copper arsenate shall meet the requirements of the AWPA Standards. Tests to determine conformance shall be in accordance with AWPA Standard A2.~~

955-5 Requirements for Retainment.

955-5.1 Piling :A minimum of 2.50 lb/ft^3 [40.1 kg/m^3] of CCA oxides shall be retained in zone 1, outer 0.50 inch [12.7 mm], and 1.5 lb/ft^3 [24.0 kg/m^3] in zone 2, outer 0.50 to 2 inches [12.7 to 51 mm].

If AC*Z*A is used, a minimum of 2.50 lb/ft^3 [40.1 kg/m^3] shall be retained in *zone 1, outer 0.50 inch [12.7 mm], and 1.5 lb/ft^3 [24.0 kg/m^3] in zone 2, outer 0.50 to 2 inches [12.7 to 51 mm]*~~the 0.0 to 1 inch [0 to 25 mm] zone~~.

955-5.2 Structural Timber and Sheet Piles: When installation is not in a salt (or brackish) water environment, the minimum retention shall be 0.60 lb/ft^3 [9.6 kg/m^3] of CCA or ACQ-D *or 0.31 lb/ft^3 [5.0 kg/m^3] CA-B*~~oxides~~, as determined by cores from the outer 0.60 inch [15.2 mm]. When installation is in a salt (or brackish) water environment, a minimum of 2.50 lb/ft^3 [40.1 kg/m^3] of CCA oxides shall be retained in the outer 0.60 inch [15.2 mm].

All guardrail material (timber posts, blocks, wedges, etc.) shall retain a minimum of 0.40 lb/ft^3 [6.4 kg/m^3] of CCA or ACQ-D *or CA-B at 0.21 lb/ft^3 [3.3 kg/m^3]* ~~oxides~~ in the outer 1 inch [25 mm] zone.

955-5.3 Posts: *Round/sawn* ~~T~~*t*imber fence posts shall retain a minimum of 0.40 lb/ft^3 [6.4 kg/m^3] of ~~CCA or~~ ACQ-D *or 0.21 lb/f^3 [3.3 kg/m^3]*~~oxides~~*of CA-B* in the outer 1 inch [25 mm] zone.

955-5.4 Determination of Retention: Retention shall be determined by assay performed and certified by the treating company *in accordance with the applicable AWPA standards*.

955-6 Penetration Requirements.

955-6.1 For Structural Timber: The penetration of the treatment shall be in accordance with the *applicable AWPA standards*~~American Wood Preservers' Association Standard C-2~~, with the exceptions as specified herein.

955-6.2 For Round Piles and Fence Posts: Any round pile or post, which does not show complete sapwood penetration will be rejected or shall be retreated to meet such penetration requirement.

955-6.3 Retreatment: The necessity for retreatment of structural timber, piling and posts shall be avoided as far as practicable and if it becomes apparent that due measures are not being taken to prevent such necessity, the acceptance of retreated materials may be withdrawn.

When retreatment is necessary the maximum limits for temperature of steam or preservative, and for preservative pressure, which apply to the original treatment shall not be exceeded during the retreatment.

955-6.4 Determination of Penetration: Sapwood penetration shall be determined by taking at least one increment boring core from each pile and cap, and other pieces of similar dimensions and, for other sizes of material, at least one boring from the charge for each 1,000 FBM [2 m^3] in the charge. All bored holes shall be immediately plugged, with tight fitting treated plugs.

955-7 Handling Salt Treated Piling.

In handling of piles that have been treated with chromated copper arsenate or ammoniacal copper arsenate, cable slings shall be used. Mechanical grabbers or pointed tools shall not be permitted. Rough or careless handing shall be avoided at all times.

955-8 Identification of Treating Plants for Round Piling.

The treating plant shall brand, or place a distinctive permanent mark, on each round pile, approximately 6 feet [2 m] from the butt end, such that the plant responsible for the treatment can be readily determined at any time during the service life of the piling.

Desired implementation date: Beginning with the January 2006 letting.