



Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

KEVIN J. THIBAUT, P.E.
SECRETARY

January 25, 2020

Khoa Nguyen
Director, Office of Technical Services
Federal Highway Administration
3500 Financial Plaza, Suite 400
Tallahassee, Florida 32312

Re: State Specifications Office
Section: **955**
Proposed Specification: **9550000 Timber Treatment (Including Treating Materials).**

Dear Mr. Nguyen:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

The changes are proposed by Tim McCullough from the State Materials Office to implement the requirements for treatment of timber, verify certifications when arrived on job-site or in the Department's database.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to daniel.strickland@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at 414-4130.

Sincerely,

Signature on file

Daniel Strickland, P.E.
State Specifications Engineer

DS/ra

Attachment

cc: Florida Transportation Builders' Assoc.
State Construction Engineer

**TIMBER TREATMENT
(INCLUDING TREATING MATERIALS)
(REV 10-20-20)**

SECTION 955 is deleted and the following substituted:

955-1 General.

The work specified in this Section is the treating of structural timber, timber piling and timber posts, bracing and railing. The method of treatment and determination of assay results for all such timber materials shall be in accordance with ~~AASHTO M-133~~, ~~or~~ American Wood Protection Association (AWPA) Use Category System (UCS) - U1, with the exceptions and additions as specified herein. Use approved producers listed on the Department's Production Facility Listing for timber components located in <https://mac.fdot.gov/smreports>. Producers seeking inclusion shall meet the requirements of Section 105.

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) in accordance with AWPA U1.~~ **Guardrail Post, Fence Post, Bracing and Railing on Pedestrian Bridges, Buildings, and Rest Areas in Above Ground, Ground Contact, Fresh Water Immersion Applications (Pedestrian Use):** Provide guardrail post, fence post, bracing and railing in accordance with Table 955-1. Approved producers should provide a certification showing the treatment and assay results with every shipment.

<u>Table 955-1</u>				
<u>Product</u>	<u>Type / Species</u>	<u>Category</u>	<u>Treatment</u>	<u>Assay Results</u>
<u>Guardrail Posts, Fence Post, Bracing, & Railing</u>	<u>Southern Yellow Pine</u>	<u>UC4A</u>	<u>Micronized Copper Azole (MCA)</u>	<u>≥ 2.4 kg/m³ or ≥ 0.15 pcf</u>
			<u>Copper Azole Type C (CA-C)</u>	
			<u>Copper Azole Type B (CA-B)</u>	<u>≥ 3.3 kg/m³ or ≥ 0.21 pcf</u>
			<u>Alkaline Copper Quat Type A, (ACQ-A)</u>	<u>≥ 6.4 kg/m³ or ≥ 0.40 pcf</u>
<u>Alkaline Copper Quat Type B, (ACQ-B)</u>				

			<u>Alkaline Copper Quat Type C, (ACQ-C)</u>	
			<u>Alkaline Copper Quat Type D, (ACQ-D)</u>	

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, Ammoniacal Copper Zinc Arsenate (ACZA), Copper Azole (CA), Micronized Copper Azole (MCA), Alkaline Copper Quat (ACQ), Micronized Copper Quat (MCQ), or CCA, with the following exceptions:

_____ Treatment of the wood products of the pedestrian bridges, wood rails at buildings or rest areas, and fence posts shall be done either with CA, MCA, or ACQ. **Guardrail Posts, Fence Posts, Bracing and Sheet Piling in Above Ground, Ground Contact or Fresh Water Immersion Applications (Non-Pedestrian Use).** Provide guardrail post, fence post, bracing and sheet piling in accordance with Table 955-2. Approved producers should provide a certification showing the treatment and assay results with every shipment.

<u>Table 955-2</u>				
<u>Product</u>	<u>Type / Species</u>	<u>Category</u>	<u>Treatment</u>	<u>Assay Results</u>
<u>Guardrail Posts, Fence Post, Bracing</u>	<u>Southern Yellow Pine</u>	<u>UC4A</u>	<u>MCA</u>	<u>≥ 2.4 kg/m³ or ≥ 0.15 pcf</u>
			<u>CA-C</u>	
			<u>CA-B</u>	<u>≥ 3.3 kg/m³ or ≥ 0.21 pcf</u>
			<u>Ammoniacal Copper Zinc Arsenate (ACZA)</u>	<u>≥ 6.4 kg/m³ or ≥ 0.40 pcf</u>
			<u>Chromated Copper Arsenate Type C (CCA)</u>	
<u>ACQ-A ACQ-B ACQ-C ACQ-D</u>				
<u>Piling</u>	<u>Cypress</u>		<u>None</u>	<u>N/A</u>
	<u>Southern Yellow Pine</u>	<u>UC4B UC4C</u>	<u>ACZA</u>	<u>≥ 9.6 kg/m³ or ≥ 0.60 pcf</u>
			<u>CCA</u>	<u>≥ 9.6 kg/m³ or ≥ 0.60 pcf</u>

	<u>Pacific Coast Douglas Fir</u>		<u>ACZA</u>	<u>$\geq 9.6 \text{ kg/m}^3$ or $\geq 0.60 \text{ pcf}$</u>
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955-2.3 Guardrail Post, Fence Post, Bracing and Sheet Piling for Salt and Brackish Water Applications (Non-Pedestrian). Provide guardrail post, fence post, bracing and sheet piling in accordance with this section and Table 955-3. Approved producers should provide a certification showing the treatment and assay results with every shipment.

<u>Table 955-3</u>				
<u>Product</u>	<u>Type / Species</u>	<u>Category</u>	<u>Treatment</u>	<u>Assay Results</u>
<u>Guardrail Posts, Fence Post, Bracing</u>	<u>Southern Yellow Pine</u>	<u>UC4C</u>	<u>CCA</u>	<u>$\geq 9.6 \text{ kg/m}^3$ or $\geq 0.60 \text{ pcf}$</u>
<u>Piling</u>	<u>Cypress</u>	<u>UC5C</u>	<u>None</u>	<u>N/A</u>
	<u>Southern Yellow Pine</u>		<u>CCA</u>	<u>Zone 1 (Outer):</u> <u>$\geq 40 \text{ kg/m}^3$ or $\geq 2.50 \text{ pcf}$</u> <u>Zone 2 (Inner):</u> <u>$\geq 24 \text{ kg/m}^3$ or $\geq 1.50 \text{ pcf}$</u>
	<u>Pacific Coast Douglas Fir</u>		<u>ACZA</u>	<u>40 kg/m^3 or $\geq 2.50 \text{ pcf}$</u>

955-2.4 Structural Timber: Provide structural timber in accordance with this section and Table 955-4. Approved producers should provide a certification showing the treatment and assay results with every shipment.

<u>Table 955-4</u>				
<u>Product</u>	<u>Type / Species</u>	<u>Category</u>	<u>Treatment</u>	<u>Assay Results</u>
<u>Boards, Dimensional, Timber</u>	<u>Southern Yellow Pine</u>	<u>UC4B</u>	<u>CCA</u>	<u>$\geq 9.6 \text{ kg/m}^3$ or $\geq 0.60 \text{ pcf}$</u>

955-3 Process.

— All timber and lumber items shall be treated in accordance with AWPA T1.

955-4 Requirements for Preservative Materials.

— ACQ, CCA, CA, MCA and ACZA shall be in accordance with the appropriate AWPA P Standard. MCA shall be in accordance with the appropriate ICC Evaluation Service (ICC-ES) ESR Report.

955-5 Requirements for Retention.

— **955-5.1 Piling:** All pilings shall be treated in accordance with AWPA U1.

— **955-5.2 Structural Timber and Sheet Piles:** All structural timber and sheet piles shall be treated in accordance with AWPA U1.

— **955-5.3 Posts:** All posts shall be treated in accordance with AWPA U1.

~~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.~~

~~The penetration of the treatment shall be in accordance with AWPA T1.~~

955-37 Handling Waterborne Preservative Treated Piling.

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

955-48 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 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.

**TIMBER TREATMENT
(INCLUDING TREATING MATERIALS)
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SECTION 955 is deleted and the following substituted:

955-1 General.

The work specified in this Section is the treating of structural timber, timber piling and timber posts, bracing and railing. The method of treatment and determination of assay results for all such timber materials shall be in accordance with American Wood Protection Association (AWPA) Use Category System (UCS) - U1, with the exceptions and additions as specified herein. Use approved producers listed on the Department’s Production Facility Listing for timber components located in <https://mac.fdot.gov/smreports>. Producers seeking inclusion shall meet the requirements of Section 105.

955-2 Preservative.

955-2.1 Guardrail Post, Fence Post, Bracing and Railing on Pedestrian Bridges, Buildings, and Rest Areas in Above Ground, Ground Contact, Fresh Water Immersion Applications (Pedestrian Use): Provide guardrail post, fence post, bracing and railing in accordance with Table 955-1. Approved producers should provide a certification showing the treatment and assay results with every shipment.

Product	Type / Species	Category	Treatment	Assay Results
Guardrail Posts, Fence Post, Bracing, & Railing	Southern Yellow Pine	UC4A	Micronized Copper Azole (MCA)	≥ 2.4 kg/m ³ or ≥ 0.15 pcf
			Copper Azole Type C (CA-C)	
			Copper Azole Type B (CA-B)	≥ 3.3 kg/m ³ or ≥ 0.21 pcf
			Alkaline Copper Quat Type A, (ACQ-A)	≥ 6.4 kg/m ³ or ≥ 0.40 pcf
			Alkaline Copper Quat Type B, (ACQ-B)	
			Alkaline Copper	

			Quat Type C, (ACQ-C)	
			Alkaline Copper Quat Type D, (ACQ-D)	

955-2.2 Guardrail Posts, Fence Posts, Bracing and Sheet Piling in Above Ground, Ground Contact or Fresh Water Immersion Applications (Non-Pedestrian Use). Provide guardrail post, fence post, bracing and sheet piling in accordance with Table 955-2. Approved producers should provide a certification showing the treatment and assay results with every shipment.

Product	Type / Species	Category	Treatment	Assay Results
Guardrail Posts, Fence Post, Bracing	Southern Yellow Pine	UC4A	MCA	$\geq 2.4 \text{ kg/m}^3$ or $\geq 0.15 \text{ pcf}$
			CA-C	
			CA-B	$\geq 3.3 \text{ kg/m}^3$ or $\geq 0.21 \text{ pcf}$
			Ammoniacal Copper Zinc Arsenate (ACZA)	$\geq 6.4 \text{ kg/m}^3$ or $\geq 0.40 \text{ pcf}$
			Chromated Copper Arsenate Type C (CCA)	
ACQ-A ACQ-B ACQ-C ACQ-D				
Piling	Cypress		None	N/A
	Southern Yellow Pine	UC4B UC4C	ACZA	$\geq 9.6 \text{ kg/m}^3$ or $\geq 0.60 \text{ pcf}$
			CCA	$\geq 9.6 \text{ kg/m}^3$ or $\geq 0.60 \text{ pcf}$
Pacific Coast Douglas Fir		ACZA	$\geq 9.6 \text{ kg/m}^3$ or $\geq 0.60 \text{ pcf}$	

955-2.3 Guardrail Post, Fence Post, Bracing and Sheet Piling for Salt and Brackish Water Applications (Non-Pedestrian). Provide guardrail post, fence post, bracing and sheet piling in accordance with this section and Table 955-3. Approved producers should provide a certification showing the treatment and assay results with every shipment.

Product	Type / Species	Category	Treatment	Assay Results
Guardrail Posts, Fence Post, Bracing	Southern Yellow Pine	UC4C	CCA	$\geq 9.6 \text{ kg/m}^3$ or $\geq 0.60 \text{ pcf}$
Piling	Cypress	UC5C	None	N/A
	Southern Yellow Pine		CCA	Zone 1 (Outer): $\geq 40 \text{ kg/m}^3$ or $\geq 2.50 \text{ pcf}$ Zone 2 (Inner): $\geq 24 \text{ kg/m}^3$ or $\geq 1.50 \text{ pcf}$
	Pacific Coast Douglas Fir		ACZA	40 kg/m^3 or $\geq 2.50 \text{ pcf}$

955-2.4 Structural Timber: Provide structural timber in accordance with this section and Table 955-4. Approved producers should provide a certification showing the treatment and assay results with every shipment.

Product	Type / Species	Category	Treatment	Assay Results
Boards, Dimensional, Timber	Southern Yellow Pine	UC4B	CCA	$\geq 9.6 \text{ kg/m}^3$ or $\geq 0.60 \text{ pcf}$

955-3 Handling Waterborne Preservative Treated Piling.

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

955-4 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 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.