

**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) Standards, with the exceptions and additions as specified herein.

955-2 Preservative.

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 items shall be treated by the modified full cell process.

955-4 Requirements for Preservative Materials.

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 ₂ O 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 A-2.

955-5 Requirements for Retainment.

955-5.1 Piling: A minimum of 2.50 lb/ft³ [40.1 kg/m³] of CCA oxides shall be retained in zone 1, outer 0.50 inch [12.7 mm] and 1.5 lb/ft³ [24.0 kg/m³] in zone 2, outer 0.50 to 2 inches [12.7 to 51 mm].

If ACA is used, a minimum of 2.50 lb/ft³ [40.1 kg/m³] shall be retained in 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/ft³ [9.6 kg/m³] of CCA or ACQ-D 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/ft³ [40.1 kg/m³] 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/ft³ [6.4 kg/m³] of CCA or ACQ-D oxides in the outer 1 inch [25 mm] zone.

955-5.3 Posts: Timber fence posts shall retain a minimum of 0.40 lb/ft³ [6.4 kg/m³] of CCA or ACQ-D oxides 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.

955-6 Penetration Requirements.

955-6.1 For Structural Timber: The penetration of the treatment shall be in accordance with the 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 m³] 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 handling 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.