

TT-W-551F  
April 15, 1976  
SUPERSEDING  
(see 6.5).

FEDERAL SPECIFICATION  
WOOD PRESERVATIVE - CHROMATED ZINC  
CHLORIDE MIXTURE

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the composition and methods of analysis of chromated zinc chloride treating solutions for the preservative treatment of wood according to Federal Specification TT-W-571 (sec 6.1), and also strong solutions suitable for the brush treatment of the cut ends of treated wood products.

1.2 Classification.

1.2.1 Composition. Chromated zinc chloride shall be of one composition, as described herein.

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

Federal Specifications.

TT-W-571 - Wood Preservation. Treating Practices.  
PPP-P-1892 - Paint, Varnish, Lacquer and Related Materials. Packaging, Packing, and Marking of.

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

(Single copies of this specification and other Federal Specifications required by activities outside the Federal Government for bidding purposes are available without charge from Business Service Centers at the General Services Administration Regional Offices in Boston, New York, Washington, DC, Atlanta, Chicago, Kansas City, MO, Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, WA.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Standard:

MIL-STD-105 - Sampling Procedures and Tables For Inspection by Attributes.

(Copies of Military Specifications and Standards required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

Laws and Regulations:

40 CFR 162 - Federal Insecticide, Fungicide, and Rodenticide Act.

(The Code of Federal Regulations (CFR) and the Federal Register (FR) are for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. When indicated, reprints of certain regulations may be obtained from the Federal agency responsible for issuance thereof.)

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2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

American Wood Preservers Association (AWPA) Standard:

- A2 - Standard Methods for Analysis of Water-Borne Preservatives and Fire Retardant Formulations.

(Application for copies should be addressed to the American Wood Preservers Association, 1625 I Street, N.W., Washington, DC 20006.)

### 3. REQUIREMENTS

#### 3.1 Properties.

3.1.1 Chromated zinc chloride mixture in solid form shall consist of water-soluble compounds, selected from the following groups, each in excess of 95 percent purity on an air-dry basis:

Hexavalent chromium - e.g., sodium dichromate or chromium trioxide

Zinc - e.g., zinc chloride

The commercial preservative shall be labeled as to its total content of active ingredients calculated as chromium trioxide ( $\text{CrO}_3$ ) plus zinc oxide ( $\text{ZnO}$ ).

3.1.2 The active ingredients of chromated zinc chloride, either in solid form, in a treating solution, or in a concentrated solution shall be present in the following ratio:

Hexavalent chromium, as  $\text{CrO}_3$  ..... 20 parts by weight

Zinc, as  $\text{ZnO}$  ..... 80 parts by weight

3.1.3 The composition of the solid preservative, or of a treating solution, or of a concentrated solution, shall not fall below the following limits:

	<u>Minimum Percent</u>
Hexavalent chromium, as $\text{CrO}_3$ .....	19
Zinc, as $\text{ZnO}$ .....	76

3.1.4 The pH of the treating solution shall be maintained between 2.8 and 4.0.

3.1.5 The concentration of a treating solution shall be adjusted so as to result in a retention as specified for the product. The concentration of a strong solution shall be a minimum of 5 percent calculated as  $\text{CrO}_3$  and  $\text{ZnO}$ .

3.1.6 Samples of chromated zinc chloride treating solution taken from a working tank or treating cylinder may show changes in composition as a result of treating operations. Such changes shall not serve to cause rejection of the preservative if they do not raise the ratio of zinc oxide to chromium trioxide to more than 7 to 1, and if it can be shown that the original fresh preservative was of specified composition.

3.1.7 The net retention of preservative shall be calculated as net pounds of  $\text{CrO}_3$  plus  $\text{ZnO}$  deposited in wood in the proportions as limited by 3.1.3.

### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

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4.2 Inspection of preparation for delivery. An inspection shall be made to determine whether the packing and marking comply with the requirements in section 5 of this specification.

4.3 Sampling. The preservative solution shall be thoroughly agitated, after which a 1-quart sample shall be taken for inspection and test purposes. The contractor shall supply such samples and containers as may be required at no cost to the Government.

4.4 Tests. Tests to determine the properties of chromated zinc chloride treating solutions (see 3.1) shall be made in accordance with AWWA Standard A2.

#### 5. PREPARATION FOR DELIVERY

5.1 Packaging, packing, and marking. The packaging, packing, and marking shall be in accordance with PPP-P-1892. The level of packaging shall be A, B, or C, the level of packing shall be A, B, or C and the marking shall be civil or military as specified (see 6.2).

#### 6. NOTES

6.1 Intended use. Chromated zinc chloride may be used for the preservative treatment of lumber, structural timbers, mine timbers, and plywood in accordance with the conditions outlined in Federal Specification TT-W-571, Wood Preservation: Treating Practices. A strong solution (see 3.1.5) may be used for brush applications to the cut surfaces of treated products.

6.2 Ordering data. Purchasers should select the preferred options permitted herein, and include the following information in procurement documents:

- (a) Title, number, and date of this specification.
- (b) Level of packing required (see 5.1).
- (c) Size of container required.
- (d) whether civil or military marking is required.

6.3 Normally, only treated materials will be procured by the Government and there are no Government plants using the bulk preservative.

6.3.1 If the material covered by this specification is procured by the Government as an end item, it should be marked in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act.

6.3 This specification was developed by the Forest Products Laboratory, Forest Service, U.S. Department of Agriculture, Madison, WI, 53705. Further information concerning this specification should be directed to the above address.

6.5 Supersession data. This specification supersedes Federal Specification TT-W-551E, dated June 12, 1975, and Federal Specification TT-W-551E, dated November 28, 1975.

PREPARING ACTIVITY    AGR - AFS

DOD has waived coordination on revisions and amendments to this Federal Specification until further notice.

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See Section 2 of this specification to obtain extra copies and other documents referenced herein. Price 25 cents each.