

**ETHIOPIAN
STANDARD**

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**Specification for water soluble type wood
Preservative**

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Foreword

This Ethiopian Standard has been prepared under the direction of the Technical Committee for Bamboo and Bamboo products (TC 99) and published by the Ethiopian Standards Agency (ESA).

In preparing this standard reference has been made to IS 10013 (part 1) :1981 "Specification for water soluble type wood preservative", published by Bureau of Indian standards(BSI)

Acknowledgement is made to the Bureau of Indian Standards for the use of the said publication in preparing the standard.

Specification for water-soluble type preservative Acid-Copper- Chrome (ACC) preservatives

1. Scope

This standard covers the requirements for acid-copper-chrome-a water soluble (fixed) type wood preservative specified for treatment of timber and other lignocellulosic materials as given in.

This specification covers the composition of the preservative, quality of chemicals forming this composition, and sampling procedure for analysis.

2. Composition and properties of preservative

2.1 Acid-copper-chrome

Preservative formulation shall consist of the following active ingredients in nominal proportions by weight as shown in table 1 below:

Compound	Formula	nominal proportions by weight of active ingredients
Chromic acetate/boric acid	$C_r (C_2H_3O_2)_3H_2O$	5
Copper sulphate	$Cu_2SO_{4,.5}H_2O$	50
Sodium dichromatic or Potassium dichromate	$Na_2Cr_2O_7$ $K_2C_2CrO_7$	45

Table 1: proportion of active ingredients by weight

2.1.1 The percentage of any of the ingredients shall not be less than proportions shown in table 2:

Compound	Formula	Proportion of active ingredients, %
Chromic acetate/boric acid	$C_r (C_2H_3O_2)_3H_2O$	4.75
Copper sulphate	$Cu_2SO_{4,.5}H_2O$	47.50
Sodium dichromatic or Potassium dichromate	$Na_2Cr_2O_7$ $K_2C_2CrO_7$	42.5

Table 2: proportion of active ingredients by percent

2.2 The preservative may be in a dry solid form, semi-liquid paste or solution,

2.3 pH Value - The PH value of solution ready for use shall not be lower than 2.7 nor higher than 4.2 when determined by means of a glass electrode at 15.5°C:

2.4 In case of dry solid, the preservative shall contain not less than 95 percent of the active ingredients mentioned under 2.1.

2.4.1 In all cases the percentage of active ingredients, total active compounds and amount of moisture shall be labeled on the container as well as descriptive literature of the product.

2.5 Each of the chemicals used for such formulation shall be not less than of '35 percent purity.

3. Sampling

3.1 Samples shall be taken from requisite number of drums out of the supply made at one particular time.

3.2 In case of solution or paste, the same shall be thoroughly mixed with a rod and at least 1 kg sample shall be taken for chemical analysis from each drum.

3.3 In case of dry powder form, a true representative sample of the material, not less than one percent of the contents shall be taken for analysis.

3.4 At least 1 kg of the preservative shall be dissolved to obtain 1.5 percent solution of the preservative.

3.5 A small amount of the 15 percent solution may be drawn and diluted exactly to 5 percent for chemical analysis.

4. Testing

4.1 The chemical analysis of the solution with respect to its various ingredients shall be carried out according to the methods of estimation. The proportion of all chemicals shall comply with 2.1 and 2.1.1.

5. Marking

5.1 Each container shall be legibly marked with the following information:

- a) Manufacturer's name or trade-mark, if any
- b) Date of manufacture; and
- c) Percentage of dry active ingredients.

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ESA's objectives are:-

- ❖ Develop Ethiopian standards and establish a system that enable to check whether goods and services are in compliance with the required standards,
- ❖ Facilitate the country's technology transfer through the use of standards,
- ❖ Develop national standards for local products and services so as to make them competitive in the international market.

Ethiopian Standards

The Ethiopian Standards are developed by national technical committees which are composed of different stakeholders consisting of educational Institutions, research institutes, government or ganizations, certification, inspection, and testing organizations, regulatory bodies, consumer association etc. The requirements and/or recommendations contained in Ethiopian Standards are consensus based that reflects the interest of the TC representatives and also of comments received from the public and other sources. Ethiopian Standards are approved by the National Standardization Council and are kept under continuous review after publication and updated regularly to take account of latest scientific and technological changes. Orders for all Ethiopian Standards, International Standard and ASTM standards, including electronic versions, should be addressed to the Documentation and Publication Team at the Head office and Branch (Liaisons) offices. A catalogue of Ethiopian Standards is also available freely and can be accessed in f rom our website.

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