

ICS 79.010
CCS B 71

LY

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

LY/T 3195-2020

**Quality of bamboo treated with preservatives
(English Translation)**

Issued on: March 30, 2020

Implemented on: October 1, 2020

Issued by: State Forestry and Grassland Administration

Table of Contents

Foreword	
1 Scope	
2 Normative references	
3 Terms and definitions	
4 Anti-corrosion treatment requirements	
4.1 Bamboo moisture content before treatment	
4.2 Preservatives	
4.3 Anti-corrosion treatment method	
5 Quality requirements for anti-corrosion treatment	
5.1 Penetration rate	
5.2 Drug loading	
6 Inspection method of anticorrosive bamboo processing quality	
6.1 Sampling method for penetration rate testing	
6.2 Detection method of penetration rate	
6.3 Testing method for drug loading of antiseptic bamboo	

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was proposed and managed by the National Bamboo and Rattan Standardization Technical Committee (SAC/TC 263).

Drafting organizations of this standard. International Center for Bamboo and Rattan, Institute of Wood Industry, Chinese Academy of Forestry.

1 Scope

This standard specifies the moisture content, preservatives used, preservative treatment process, and quality of the preservative treatment of bamboo Requirements and testing methods.

This standard applies to the anti-corrosion treatment of bamboo chips, bamboo strips and bamboo tubes, but not to the anti-corrosion treatment of bamboo composite materials.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version this applies to this document. For undated references, the latest version (including all amendments) is applicable to this file.

GB/T 14019 Terminology for wood preservation GB/T 23229-2009 Analysis method of water-borne wood preservative GB/T 27651-2011 Classification and requirements for the use of preservative wood GB/T 27654 Wood preservative LY/T 1660 Terminology for bamboo wood-based panels

3 Terms and definitions

The terms defined in GB/T 14019 and LY/T 1660 and the following definitions apply to this document.

Preservative-treated bamboo Bamboo chips, bamboo strips, bamboo tubes and other bamboo materials with antiseptic function after treatment with preservatives.

Penetration rate of preservative in bamboo the percentage of the number of vascular bundles penetrating the medicine into the cross section of the bamboo material to the total number of vascular bundles on the same cross section.

Retention of preservative-treated bamboo the quality of the active ingredient of the preservative in the unit volume of preservative bamboo.

4.1 Bamboo moisture content before treatment

The moisture content of the bamboo material should be less than 20% before the preservative treatment; if the boron compound in GB/T 27654 is used as the preservative, There is no special requirement for the moisture content of the bamboo material before antiseptic treatment.

4.2 Preservatives

The anticorrosive treatment of bamboo generally uses water-borne preservatives, which should meet the quality requirements of GB/T 27654.

4.3 Anti-corrosion treatment method

The anticorrosive treatment of bamboo generally adopts vacuum pressure treatment process; if boron compound preservative is used, normal pressure can also be used ???
Processing.

5.1 Penetration rate

The penetration rate of preservatives should be $\geq 85\%$.

5.2 Drug loading

The preservative should meet the requirements specified in C1, C2, C3.1, C3.2 and C4.1 in Table 2 of GB/T 27651-2011 (see

Table A.1 in Informative Appendix A).

6.1 Sampling method for penetration rate testing

6.1.1

The sampling should be $\geq 30\text{cm}$ from the end and in the middle of the two bamboo joints, avoiding the cracked part.

6.1.2

Randomly select ≥ 3 samples from each tank of anti-corrosion treatment.

6.2.1 Determination of penetration rate of copper-containing anticorrosive bamboo

0.1g of chrome azurol and 1g of sodium acetate are added to 100ml of distilled water to dissolve the solution as the developer, spray this developer Go to the cross section of the newly sawn bamboo, and the color of the vascular bundles of the medicine penetrated under the stereo microscope or magnifying glass.

Shows dark blue, the vascular bundle does not show color without penetration of the drug. Judging the preservatives in the bamboo according to the proportion of the drug vascular bundle Penetration rate.

6.2.2 Determination of penetration rate of boron-containing anticorrosive bamboo

Mix 10ml hydrochloric acid (concentration 36%) with 80ml ethanol (concentration 95%), and then dilute it to 100ml, add 0.25g curcumin, then add 10g salicylic acid, shake the solution as the developer, spray the developer Go to the cross section of the newly sawn bamboo, and the color of the vascular bundles of the medicine penetrated under the stereo microscope or magnifying glass.

It shows bright red, and the vascular bundle does not show color without penetration of the medicine. Judging the preservatives in the bamboo according to the proportion of the drug vascular bundle Penetration rate.

6.3 Testing method for drug loading of antiseptic bamboo

Sampling is carried out according to method 6.1, and the sample is processed into a powder sample of no less than 30 mesh, and after it is mixed thoroughly, use GB/T 23229-2009 chapter 4 to chapter 9 analysis method. According to the measured value of drug loading, and GB/T 27651-2011 Compare the values specified in Table 2 (see Table A.2 in Informative Appendix A) to determine whether the drug loading of anticorrosive bamboo meets the requirements begging.

Appendix A

(Informative appendix) Use classification of anticorrosive bamboo and its products
According to the final use environment and exposure conditions of bamboo and its products, as well as the effect of biodegradation factors under different environmental conditions the degree of harm of bamboo and its products is classified into five categories C1~C5, of which C3 and C4 are further divided into two categories C3.1, C3.2 and C4.1, C4.2 are shown in Table A.1. Anticorrosive bamboo and its products used under various conditions should reach the drug loading