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

LY/T 1926-2010

Replacing LY/T 1926-2010

**Test method for evaluating the antibacterial performance of
wood(bamboo)-based panels and products**

抗菌木(竹)质地板 抗菌性能检验方法与抗菌效果

(English Translation)

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Foreword

This document is in accordance with GB/T 1.1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents" the rules given are drafted.

This document replaces LY/T 1926-2010 "Antibacterial Wood (Bamboo) Floor Antibacterial Performance Test Method and Antibacterial Effect".

Compared with LY/T 1926-2010, in addition to editorial changes, the main technical content changes are as follows.

--The name of the document was revised to "Test and Classification of Antibacterial Performance of Artificial Panels and Wood (Bamboo) Products"

--1 Modified the scope of application;

--3 Terms and definitions, modify 3.1 antibacterial treatment, clarify the scope of

antibacterial, and specifically refer to antibacterial function; add

3.2 Definition of antibacterial rate;

-In Clause 4.1, it is clear that the bacterial test method is the filming method;

--Added "4.2 Test Conditions", requiring that "bacteria testing laboratories should meet the requirements of GB 19489";

--Description of strain ATCC code. Code of American Type Culture Collection;

--4.8.1 The operation of the negative control sample (A) is to add sterile water without inoculating bacteria;

-The number of samples is changed from 5 to 3 (repeat once, there are 6 samples in total);

--4.10.1 The requirements for the role of negative controls have been added to the requirements for test results;

--Remove the test content related to mold;

--The content of "5 Antibacterial Performance Classification" has been added;

--Add 6 test report clauses.

This document was proposed and managed by the National Wood-based Panel Standardization Technical Committee (SAC/TC198).

Revision units of this document. Research Institute of Wood Industry, Chinese Academy of Forestry, National Quality Supervision of Wood-based Panels and Wood and Bamboo Products Inspection Center, Zhejiang Agriculture and Forestry University, Dehua Rabbit Baby Decoration New Materials Co., Ltd., Baroque Wood (Zhongshan) Co., Ltd.

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1 Scope

This document specifies the antibacterial performance test methods and classification terms and definitions, antibacterial performance of wood-based panels and wood (bamboo) products Detection method and classification.

This document is applicable to the antibacterial performance testing and grading of antibacterial wood-based panels and various antibacterial wood (bamboo) products. This document Does not involve the safety evaluation of antibacterial products.

2 Normative references

The contents of the following documents constitute indispensable clauses of this document through normative references in the text. Among them, dated for reference documents, only the dated version applies to this document; for undated reference documents, the latest version (including all Some amendments) apply to this document.

Note: For undated references, if the latest version contains the quoted content, then the quoted the final version of the content applies.

GB 4789.2-2016 National Food Safety Standard, Food Microbiological Inspection, Determination of Total Colony GB 19489 Laboratory Biosafety General Requirements WS/T 650-2019 Antibacterial and antibacterial effect evaluation method

3 Terms and definitions

The following terms and definitions apply to this document.

Antibacterial treatment Use mechanical, physical or chemical methods to interfere with, inhibit the growth and reproduction of bacteria, reduce their number or kill directly the process of bacteria.

Antibacterial rate

The difference between the average number of bacteria recovered after the test sample and the control sample are inoculated with the test bacteria for a certain period of time and the average recovery of the control sample the percentage of the bacterial count is called the antibacterial rate of the test sample.

4.1 Principle

The antibacterial test method refers to the filming method used in the WS/T 650-2019 standard, that is, by inoculating bacteria on the sample to be tested the surface of the product is then covered with a plastic film, so that the bacteria evenly and fully contact the surface of the sample to be tested, and pass through under the specified conditions.

After culturing for a certain period of time to reach a certain number of bacteria, use the plate viable bacteria count method to calculate the number of bacteria in the tested sample.

A method to evaluate the antibacterial effect by calculating the antibacterial rate.

4.2 Test conditions

The bacteria testing laboratory shall meet the requirements of GB 19489.

4.3 Main instruments and equipment

-Constant temperature incubator (can keep the temperature at $37\pm 2^{\circ}\text{C}$)-Refrigerator (can keep the temperature at $0-5^{\circ}\text{C}$)-Ultra-clean workbench (cleanliness level not less than 100)-Biological optical microscope (200~400x)-Pressure steam sterilizer (can maintain a temperature of 121°C and a pressure of 103kpa)-Electric heating drying oven (can keep the temperature at $160-180^{\circ}\text{C}$)-Inoculation loop (diameter not more than 4mm)

4.4 Cover film

Polyethylene film, size 40mmx40mmx0.05mm, soak in 75% ethanol solution for 1min, then use sterile water or Rinse the eluate, dry it naturally and set aside.

4.5.1 Liquid LB medium

Yeast extract 5.0g

Tryptone 10.0g

Sodium chloride 5.0g Preparation method. add the above ingredients into 1000mL distilled water at once, heat to dissolve, then use 0.1mol/L sodium hydroxide solution Adjust the pH to between 7.0 and 7.2, and place it in a pressure steam sterilizer for sterilization at 121°C for 30 minutes.

4.5.2 Solid LB medium

Add 15g agar to 1000mL liquid LB medium, heat to melt, adjust pH with 0.1mol/L sodium hydroxide solution the value is between 7.0 and 7.2, and then placed in a pressure steam sterilizer for sterilization at 121°C for 30 minutes.

4.6.1 Disinfectant

75% ethanol disinfectant.

4.6.2 Eluent

Normal saline containing 0.85% sodium chloride. Adjust pH with 0.1mol/L sodium hydroxide solution or 0.1mol/L hydrochloric acid solution the value is between 7.0 and 7.2, and then placed in a pressure steam sterilizer for sterilization at 121°C for 30 minutes.

4.6.3 Culture medium

Liquid LB medium/physiological saline solution, the concentration of E. coli inoculum is 1/500 (volume ratio), golden the concentration of Staphylococcus chromosome inoculum is 1/100 (volume ratio). In order to facilitate the dispersion of bacteria, 0.2% of sterile surface activity can be added Agent (such as Tween 80). Adjust the pH value with 0.1mol/L sodium