



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

GB/T 1927.2-2021

**Test methods for physical and mechanical properties of small
clear wood specimens - Part 2: Sampling methods and general
requirements**

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foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents"

drafted:

This document is part 2 of GB/T 1927 "Test Methods for Physical and Mechanical Properties of Small Specimens of Wood without Defects": GB/T 1927 has been issued

The following parts are distributed:

- Part 1: Collection of test materials;
- Part 2: Sampling methods and general requirements;
- Part 3: Determination of growth ring width and latewood rate;
- Part 4: Determination of moisture content;
- Part 5: Density determination;
- Part 6: Determination of dry shrinkage;
- Part 7: Determination of water absorption;
- Part 8: Determination of swelling properties;
- Part 9: Determination of flexural strength;
- Part 10: Determination of flexural modulus of elasticity;
- Part 12: Determination of transverse grain compressive strength;
- Part 17: Determination of impact toughness;
- Part 18: Determination of impact indentation;

--- Part 19: Determination of hardness;

--- Part 20: Determination of splitting resistance:

This document replaces GB/T 1928-2009 "General Principles of Wood Physical Mechanics Test Methods" and GB/T 1929-2009 "Wood Physical Mechanics"

Test material sawing and sample interception method", compared with GB/T 1928-2009, GB/T 1929-2009, except for structural adjustment and editorial changes

In addition, the main technical changes are as follows:

--- Changed the schematic diagram of the method of marking the test material (see 4:2:1:2, 3:2 of GB/T 1929-2009);

--- Added sampling method for center board and sawn timber (see 4:2:2 and 4:2:3);

--- Added the relevant provisions for the matching of green and dry wood samples (see 4:5);

--- Changed the drying room temperature conditions (see 4:6:3, 4:3 of GB/T 1929-2009);

--- Increase the moisture content adjustment of the raw material test material (see 4:6:4);

--- Increased the average value of the coefficient of variation of the equilibrium moisture content (see 5:1:2);

--- Increased the moisture content adjustment of green samples (see 5:3:2 and 5:3:3):

This document is modified and adopted ISO 3129:2019 "Sampling methods and general requirements for wood physical and mechanical tests of small samples of wood without defects":

This document has the following structural adjustments compared to ISO 3129:2019:

--- Chapter 4 corresponds to Chapter 5 and Chapter 6 in ISO 3129:2019, of which 4:1~4:5 correspond to ISO 3129:2019

Chapter 5, added 4:2:1, 4:6 corresponding to Chapter 6 in ISO 3129:2019;

--- Chapter 5 corresponds to Chapter 7, Chapter 8, Chapter 9 and Chapter 10 in ISO 3129:2019, of which 5:1~5:3 correspond to

Chapter 7 in ISO 3129:2019, 5:4~5:5 correspond to Chapter 8 in ISO 3129:2019, 5:6:1~5:6:3 correspond to

Clause 9, 5:6:4 in ISO 3129:2019 corresponds to Clause 10 in ISO 3129:2019:

The technical differences between this document and ISO 3129:2019 and their reasons are as follows:

--- This document does not cite the international original text quoted in the ISO 3129:2019

normative reference document, because it does not involve logs and sawn timber vocabulary;

--- Changed the log interception plan to conform to the type of test material actually collected (see 4:2:1, 5:2:2 of ISO 3129:2019);

--- Changed the adjustment method of the moisture content of the test material, in line with the adjustment method of the moisture content of the test material in my country, and the operation is more convenient (see 4:6, ISO 3129:

6:1 of:2019);

--- Changed the method for determining the number of samples, only specifying the number of samples for mechanical sampling, and deleted the original random sampling and selective sampling:

The number of samples, the uniform number of test pieces facilitates the operability of the comparison of test results (see 5:1:1, 7:5 of ISO 3129:2019);

--- Changed the coefficient of variation of hardness to 20%, in line with the coefficient of variation of hardness of major wood species in my country (see 5:1:2, ISO 3129:

7:5:4 of:2019);

--- Changed the allowable error of sample accuracy to $\pm 0.5\text{mm}$, which is in line with the actual machining accuracy level in my country (see 5:2:2, ISO 3129:

7:3 of:2019);

--- Change the moisture content of the sample and adjust the relative humidity to be kept at $(65 \pm 3)\%$, which is in line with the accuracy level of the equipment of the constant temperature and humidity chamber in my country (see

5:3:1, 7:6:1 of ISO 3129:2019);

--- Changed the laboratory temperature and humidity conditions: If the temperature (20 ± 2) degrees C and relative humidity $(65 \pm 3)\%$ conditions cannot be maintained, the adjusted content

The samples after the water ratio should be placed in a closed container when sent to the laboratory, and taken out during the test: The perfect laboratory does not meet the temperature and humidity conditions:

Specimen preservation method under conditions (see 5:4, 8:1 of ISO 3129:2019):

The following editorial changes have been made to this document:

--- In order to harmonize with the existing standards, the name of the standard is changed to "Test Methods for Physical and Mechanical Properties of Small Specimens of Wood

without Defects Part 2: Take

Sample Methods and General Requirements":

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

Introduction

The standard of test methods for physical and mechanical properties of wood is used in wood scientific research, teaching, wood inspection, wood structure design, wood processing and production, etc:

It is widely used and is an important basic standard in the wood industry: In 1980, my country issued the first edition of the test methods for physical and mechanical properties of wood:

The domestic standard (GB/T 1927~GB/T 1943) was revised twice in:1991 and:2009 respectively: In recent years, with the development of wood science and technology

The development of technology, ISO 3129:2012 "Sampling methods for wood physical and mechanical tests of small samples of wood without defects and

"General Requirements" has been revised, ISO 3130:1975 "Determination of moisture content by physical and mechanical tests of wood", ISO 3131:1975

15 international standards for test methods such as "Determination of Density in Physical and Mechanical Tests of Wood" have been integrated and revised: Based on this, in order to connect with international standards

This time, the third revision of the national standard for test methods for physical and mechanical properties of wood in my country will be carried out, and the 22 scattered test methods will be integrated and adjusted:

The whole is a sub-part document of GB/T 1927, and the latest version of the international standard has been adopted in the revision:

GB/T 1927 aims to establish a test method for the physical and mechanical properties of small sample wood without flaws, and is intended to be composed of 21 parts:

--- Part 1: Collection of test materials: The purpose is to describe the sample collection method for testing the physical and mechanical properties of wood with small samples without defects:

--- Part 2: Sampling methods and general requirements: The purpose is to establish a suitable test for the physical and mechanical properties of small wood samples without defects:

Specimen sawing, interception methods and general requirements to be observed when