



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

GB/T 1927.1-2021

**Test methods for physical and mechanical properties of small
clear wood specimens - Part 1: Collection of sample tree**

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Table of Contents

foreword

Introduction

1 Scope

2 Normative references

3 Terms and Definitions

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 1 of GB/T 1927 "Test Methods for Physical and Mechanical Properties of Small Specimens of Wood without Defects": GB/T 1927 has been released the following parts:

- 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 1927-2009 "Wood Physical Mechanics Test Material Collection Method", compared with GB/T 1927-2009, except for the structure

In addition to adjustments and editorial changes, the main technical changes are as follows:

- a) Changed the requirements for defects in the selection of samples (see 4:3:2, 3:3:2 of the:2009 edition);
- b) Added log length requirements (see 5:3);
- c) Added requirements for log defects (see 5:4);
- d) Changed the requirements for sawing logs into center board test materials (see 5:5, 4:3 of the:2009 edition);
- e) Deleted the requirements for the number position after the test material was intercepted (see 5:1 of the:2009 edition);
- f) Added the column "shape rate" in Table B:1 of Appendix B (see Table B:1):

This document is modified by ISO 4471:1982 "Sampling of wood samples and logs for the determination of physical and mechanical properties of wood in the same type of stand method":

Compared with ISO 4471:1982, this document has the following structural adjustments:

--- Chapter 4 corresponds to Chapter 4 and Chapter 5 in ISO 4471:1982, of which 4:3:1 and 4:3:2 correspond to ISO 4471:1982

5:1, added 4:3:3 and 4:3:4;

--- Chapter 5 and Chapter 6 correspond to Chapter 6 in ISO 4471:1982, of which 5:3 and 5:4 correspond to ISO 4471:1982

6:1 and 6:2, 5:1, 5:2, 5:5 and 5:6 have been added; 6:1 corresponds to 6:4 in ISO 4471:1982, and 6:2 corresponds to ISO 4471:

6:3 in 1982;

---Appendix B corresponds to Appendix D in ISO 4471:1982:

The technical differences between this document and ISO 4471:1982 and their reasons are as follows:

--- Regarding normative reference documents, this document has made adjustments with technical differences to adapt to the technical conditions of our country and the circumstances of the adjustment:

The situation is reflected in Chapter 2 "Normative References", and the specific

adjustments are as follows:

- * Replace ISO 3129 with GB/T 1927:2 which is modified to adopt international standard;
 - * Replace ISO 13061-1 with GB/T 1927:4 which is modified to adopt international standard;
 - Added the citation standards GB/T 26423-2010 and LY/T 1788 (see Chapter 3) for terms and definitions introduction;
 - Changed the choice of collecting stands (see 4:1, 4:1 of ISO 4471:1982), with stronger operability;
 - Added the requirement for sample wood sampling of the same species (see 4:3:3) to ensure the representativeness of sample wood selection;
 - Added the sampling requirements for tree species that cannot meet the requirements for setting the collection site (see 4:3:4) to ensure that when some tree species cannot meet the requirements for sampling
- Sampling can still be carried out in accordance with this document when the site setting requirements are met;
- Added the measurement requirements before and after felling the sample wood and the precautions when felling (see 5:1):
 - Changed the method of intercepting logs from the sample (see 5:3, 6:1 of ISO 4471:1982), which not only ensures the location of the second segment of logs

From the root neck to the middle of the height under the branch, it reflects the wood properties of the sample more scientifically, and it better covers the possibility of forestry production practice:

The different situations that occur are in line with the practice of collecting test materials for the study of wood properties in my country;

- Added the description of the collection of wax leaf specimens (see 5:2);
- Increase the provisions for sawing the center plate test material when the transportation conditions are limited (see 5:5);
- Increased the provisions for determining the moisture content of raw wood (see 5:6);
- Changed the collection record table (see Appendix A, Appendix A of ISO 4471:1982);
- Changed the sample log table (see Appendix B, Appendix D of ISO 4471:1982):

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 wood with small samples without defects - Part 1: Test

material collection";

--- Delete Appendix B and Appendix C to be consistent with the content of 4:1;

--- Deleted Appendix E to be consistent with the contents of 5:1 and 6:1:

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, and ISO 3130:1975 "Determination of moisture content by physical and mechanical tests of wood", ISO 3131:1975 "Wood material

15 international standards for test methods such as "Determination of Density in Physical and Mechanical Tests" have been integrated and revised: Based on this, in order to be in line 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 has been carried out, and the 22 scattered test methods have been integrated and adjusted to

The sub-part document of GB/T 1927 adopts the latest version of the international standard 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: