



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

GB/T 1927.14-2022

**Test methods for physical and mechanical properties of small
clear wood specimens - Part 14: Determination of tensile
strength parallel to grain**

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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 14 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;
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- Part 10. Determination of flexural modulus of elasticity;
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- Part 12.Determination of transverse grain compressive strength;
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- Part 14.Determination of tensile strength along grain;
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- Part 16.Determination of shear strength along grain;
- Part 17.Determination of impact toughness;
- Part 18.Determination of impact indentation;
- Part 19.Determination of hardness;
- Part 20.Determination of splitting resistance;
- Part 21.Determination of nail holding force.

This document replaces GB/T 1938-2009 "Test method for tensile strength along grain of wood". Compared with GB/T 1938-2009, except for structural

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

- Added terms and definitions (see Chapter 3);
- Changed the sample size requirements and schematic diagram (see 6.1.1 and 6.1.2, 5.2 of the.2009 edition);
- Increased the requirements for making samples for tree species with wider growth rings (see 6.1.4);
- Added "The test piece can be air-dried wood and/or green wood", and specified the method for judging the equilibrium moisture content (two intervals before and after 8h) (see 6.2);
- Changed the sample loading speed (see 7.3, 6.3 of the.2009 edition);
- Increased sample density determination (see 7.5);
- Changed the moisture content range of the sample (see Chapter 8, Chapter 7 of the.2009 edition);
- Added the specific content of the test result record and report (see Chapter 9);
- Changed the test record table of tensile strength along the grain of wood (see Appendix A, Appendix A of the.2009 edition).

This document is modified and adopted ISO 13061-6:2014 "Test methods for the physical and mechanical properties of wood with small specimens without defects - Part 6.Grain resistance

Determination of Tensile Strength".

The technical differences between this document and ISO 13061-6:2014 and the main reasons are as follows.

--- Changed "Terms and Definitions" to ensure the professionalism and uniformity of terms;

--- Added Figure 1 to help understand the sample;

--- It is different from the size and shape of the test material specified in ISO 13061-6:2014, mainly because the effective part of the sample is 60mm in length and 60mm thick.

The size is 4mm~10mm, because the size regulation of GB/T 1938-2009 is more reasonable, but there is no set range.

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 14.

Grain Tensile Strength Determination";

--- Added Appendix A "Wood Grain Tensile Strength Test Record Table".

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 "Wood

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 was made to the national standard for test methods for physical and mechanical properties of wood in my country, and the 22 scattered test method standards were 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.

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

--- Part 3.Determination of growth ring width and latewood rate. The purpose is to characterize the growth ring width and latewood rate of small samples of clear wood method of measurement.

--- Part 4.Determination of moisture content. The purpose is to describe a method for the determination of the moisture content of small wood samples without defects.

--- Part 5.Density determination. The purpose is to describe the density, air-dry density, absolute dry

Methods for the determination of density and basic density.

--- Part 6.Determination of dry shrinkage. The purpose is to describe the measurement of radial, chordwise and volume drying shrinkage of unblemished small sample wood.

determined method.

--- Part 7.Determination of water absorption. The purpose is to describe the determination method of 6h, 24h and the maximum water absorption of small sample wood without defects.

--- Part 8.Determination of swelling. The purpose is to describe the measurement of radial, chordwise and volumetric swell of unblemished small wood samples.

determined method.

--- Part 9.Determination of flexural strength. The purpose is to describe a method for the determination of the flexural strength of small wood samples without defects.