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**INDUSTRY STANDARD OF THE
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Test methods for end-joints in structural wood products

结构材纵接性能的测试方法

(English Translation)

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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 Timber Standardization Technical Committee Structural Timber Subcommittee (SAC/TC41/SC4).

This standard was drafted. Inner Mongolia Agricultural University, Institute of Wood Industry, Chinese Academy of Forestry.

1 Scope

This standard specifies the test method for the longitudinal performance of structural timber.

This standard is applicable to the test of the longitudinal connection mode and connection performance of structural wood, and can also be used to strengthen the longitudinal interface of structural wood.

Evaluation of degree and structural performance.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this document.

For undated references, the latest version (including all amendments) applies to this document.

GB/T 26899-2011 Laminate for structural use GB/T 28993-2012 Test method for mechanical properties of sawn timber for structures LY/T 2228-2013 light wood structure GB/T 1931-2009 Wood moisture content determination method

3 Terms and definitions

GB/T 26899-2011 and GB/T 1931-2009 as well as the following terms and definitions apply to this standard.

1.1 3.1

End-joints

Structural timber is finger-jointed or miter-jointed in the length direction.

1.2 3.2

Finger joint

An interface formed by gluing two ends of a pair of woods with a cross section of a tenon.

Scarf joint

The two pieces of wood with a slanted single end at the ends form a lap joint. The slope of the lap joint can be seen from the sample's cross section along the length Here.

In-line test

Testing of all products in a continuous production process.

Off-line test

A test performed on a finished product or sample in stock.

Guaranteed load

A load value used in the bearing performance test to ensure that the structural materials meet the relevant structural safety requirements and have been used normally it can maintain structural integrity during the process. The guaranteed load should be determined by both the supplier and the buyer based on the intended use, usually between the intended use (or design) load Between load and ultimate load.

4.1 General

The test methods of this standard shall include the strength and structural evaluation of the longitudinal timber interface for the structure, divided into offline testing methods and online testing methods.

law. Off-line testing methods include axial tensile testing methods, flexural testing methods, and pressure-reduced dipping peel test methods; online testing methods Methods include

guaranteed load detection methods.

The test methods of this standard allow special pretreatment of test specimens or test specimens under moisture imbalance.

4.2.1.1 Clamping device

Transmit tensile load from the drive chuck to the fixed clamping end with a distance of at least 600 mm between the clamps; for miter joints, remove the miter joints Outside the length, make the distance between the clamps at least 600mm. Do not apply any bending impulse on the cross section of the test piece, and avoid causing the test piece in the chuck.

Internal failure or stress concentration failure. The device can be connected to the test piece by a flat plate, or it can be clamped by other means. The clamping device is shown in Figure 1.

As shown.

Explanation.

t-- length of the clamping part of the fixture, unit is millimeter (mm);

L-- Distance between fixtures, in millimeters (mm).

Figure 1 Schematic diagram of axial tensile test

4.2.1.2 Loading device

The loading should be carried out at a uniform speed, and the loading fixture can be moved to meet the load accuracy. According to the test requirements, adjust the Distance. The maximum load is displayed and corrected to ensure accuracy.

4.2.2 Test specimen

The length of the test piece shall not be less than 600 2t mm. The test piece should be selected according to the actual test purpose.

4.2.3 Test steps

- a) Measure and record the thickness and width of the test piece at the longitudinal joints, to the nearest 0.1 mm.
- b) The moisture content of the test piece shall be measured and recorded in accordance with GB/T 1931-2009 for the left and right parts of the test piece.
- c) The test specimen shall be tested at a constant loading speed and reach the breaking load within 1 to 10 minutes.

- d) The longitudinal joint of the test piece should be in the middle of the span between the two ends of the fixture, so that the longitudinal axis of the test piece and the direction of the applied load are consistent.
- e) The test record shall include the maximum load reached during the test, and if necessary, describe the characteristics of the specimen failure and the wood breakage rate.

4.3.1.1 Test specimen support loading fixture

The width of the support block should be greater than the thickness of the test piece, and the length should be greater than 1/2 of the thickness of the test piece, usually not more than 200 mm, as shown in Figure 2. Should note

Note that when the width to thickness ratio of the cross section of the test piece is greater than or equal to 3, lateral support should be added to prevent lateral deformation, and it should not hinder the test piece.

Deformation in the direction of the load.

Explanation.

l-- span, unit is millimeter (mm);

h--thickness of the test piece in millimeters (mm);

L--Longitudinal test piece length, unit is millimeter (mm);

b--The width of the longitudinal test piece, in millimeters (mm).

Figure 2 Schematic diagram of bending test

4.3.1.2 Loading device

The loading device shall meet the specified accuracy. The distance between the centre lines of the two equivalent loads shall be greater than 51 mm.

4.3.2 Test specimen

The minimum length of the specimen is not less than the test span, and the ratio of the span to the width of the cross-section of the specimen during the test is between 17.1 and 21.1. Outside the support point the length of the test piece shall be less than 10 times the width of the test piece and greater than 2 times the width of the test piece. The size of the test piece is subject to actual measurement.

4.3.3 Test steps

- a) Before testing, the cross-sectional size and length of the test specimen shall be accurately measured to the nearest 0.1 mm.