International Standard

ISO 13061-15

Second edition
2025-05

Physical and mechanical properties of wood — Test methods for small clear wood specimens —

Part 15: Determination of radial and tangential swelling

Propriétés physiques et mécaniques du bois — Méthodes d'essais sur petites éprouvettes de bois sans défauts —

Partie 15: Détermination du gonflement radial et tangentiel

Reference number
ISO 13061-15:2025(en)

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Published in Switzerland

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Foreword

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This document was prepared by Technical Committee ISO/TC 218, *Timber*.

The second edition cancels and replaces the first edition (ISO 13061-15:2017), which has been editorially and technically revised.

The main changes are as follows:

— changes in the sizes and measurements of test pieces.

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Physical and mechanical properties of wood — Test methods for small clear wood specimens —

Part 15: Determination of radial and tangential swelling

1 Scope

This document specifies a method for the determination of linear swelling in the radial and tangential directions of wood.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3129, *Wood — Sampling methods and general requirements for physical and mechanical testing of small clear wood specimens*

ISO 24294, *Timber — Round and sawn timber — Vocabulary*

3 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO 24294 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Principle

The linear swelling is determined by measuring dimensions of a test piece in radial and tangential directions of wood after drying to a constant mass and after soaking in water to constant dimensions. The linear swelling is calculated as the change of the dimension in given direction expressed as a percentage of the original dimension. The initial measurements shall be taken on test pieces in oven-dry state. The final measurements shall be taken on the fully saturated test pieces.

5 Apparatus

5.1 Measuring instruments, capable of determining dimensions to an accuracy of 0,02 mm, fitted with parallel flat ends each of diameter 5 mm to 8 mm and applying a clamping force which will not cause any deformation greater than the accuracy of the instrument.

5.2 Oven, a forced convection oven that can be maintained at a temperature of (103 ± 2) °C throughout the drying chamber for the time required to dry the specimen to the end point shall be used. The oven shall be vented to allow the evaporated moisture to escape.

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