
**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



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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

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

This first edition of ISO 13061-15 cancels and replaces ISO 4859:1982, which has been technically revised. Changes have been made with regards to the sizes, moisture content of test pieces and adjustment for moisture content.

A list of all parts in the ISO 13061 series can be found on the ISO website.

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 terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://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 at absolutely dry (oven-dry) condition. 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.