



## **DRAFT TANZANIA STANDARD**

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**Physical and mechanical properties of wood — Test methods for small clear wood specimens — Part 14: Determination of volumetric shrinkage**

**TANZANIA BUREAU OF STANDARDS**

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This draft Tanzania Standard was published under the authority of the Board of Directors of Tanzania Bureau of Standards on yy-mm-dd.

Tanzania Bureau of Standards (TBS) is the statutory national standards body for Tanzania established under the Standards Act No. 3 of 1975, repealed and replaced by the Standards Act No. 2 of 2009.

The Building and Construction Divisional Standards Committee (BCDC), under whose supervision this Tanzania Standard was prepared, consists of representatives from the following organizations:

- \*College of Engineering and Technology (CoET), University of Dar es Salaam (UDSM)

- Ministry of Works and Transport (MoWT)

- National Housing Corporation (NHC)

- Contractors Registration Board (CRB)

- Ardhi University (ARU)

- Jeshi la Kujenga Taifa (JKT)

- \*National Estates and Designing Consultancy Company Ltd (NEDCO)

- Architects and Quantity Surveyors Registration Board (AQRB)

- Institution of Engineers Tanzania (IET)

- \*National Construction Council (NCC)

- Engineers Registration Board (ERB)

The organizations marked with an asterisk (\*) in the above list, together with the following were directly represented on the Technical Committee entrusted with the preparation of this Tanzania Standard:

- Tanzania Forestry Research Institute (TAFORI)

- Sokoine University of Agriculture (SUA)

- Sao Hill Industries Ltd

- Tanzania Forest Services Agency (TFS)

- Zanzibar Bureau of Standards (ZBS)

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## 0 National Foreword

The Tanzania Bureau of Standards is the statutory national standards body for Tanzania, established under standards Act No. 3 of 1975, amended by Act No. 2 of 2009.

This draft Tanzania Standard is being prepared by BCDC 6 Sawn timber, Sawn logs and Wood based Components technical committee under the supervision of the Building and Construction Divisional Committee (BCDC).

This draft Tanzania Standard is the identical adoption of *ISO 13061-14:2024 Physical and mechanical properties of wood — Test methods for small clear wood specimens — Part 14: Determination of volumetric shrinkage* published by International Organization for Standardization.

This draft Tanzania Standard replaces TZS 2196-14: 2018 *Physical and mechanical properties of wood — Test methods for small clear wood specimens — Part 14: Determination of volumetric shrinkage* which has been revised.

## Terminologies and conventions

The text of the International Standard is hereby recommended for approval without modification.

Some terminologies and certain conventions are not identical with those used as Tanzania Standard; attention is drawn to the following:

The comma (,) has been used as decimal marker (.) for metric dimensions. In Tanzania Standards, its current practice to use a full point on the baseline as decimal marker.

Whenever the words “International Standard” appear, referring to this standard, they should be interpreted as “Tanzania Standard”.



**International  
Standard**

**ISO 13061-14**

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

**Part 14:  
Determination of volumetric  
shrinkage**

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

*Partie 14: Détermination du retrait volumique*

**Second edition  
2024-02**



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 document 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](http://www.iso.org/directives)).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

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

This second edition cancels and replaces the first edition (ISO 13061-14:2016), which has been technically revised.

The main changes are as follows:

- changes in the sizes and measurements of test pieces and the calculation of test results.

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

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

The main purpose of this document is to establish the common international point of member countries of the International Organization for Standardization (ISO), concerning testing methods for small clear wood specimens and general requirements for determining physical and mechanical properties of wood.

Draft for Stakeholders Comments



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

## Part 14: Determination of volumetric shrinkage

### 1 Scope

This document specifies methods for the determination of volumetric shrinkage 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 purposes 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:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

### 4 Principle

This document specifies two methods, stereometric method and immersion method, for determining the volumetric shrinkage by measuring volume of a test piece before and after drying to a constant mass. The volume is calculated as a product of the linear dimensions of the test piece in stereometric method or measured as the mass of the water displaced in immersion method. The volumetric shrinkage is calculated as the change of the volume expressed as a percentage of the original volume. The initial measurements shall be taken on test pieces in green or fully saturated condition. The final measurements shall be taken on test pieces in oven-dry state.

### 5 Sampling

The selection, preparation and the minimum number of test pieces shall be in accordance with ISO 3129.

