INTERNATIONAL STANDARD

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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

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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 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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

For an explanation on 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.

The committee responsible for this document is ISO/TC 218, *Timber*.

This first edition of ISO 13061-14 cancels and replaces ISO 4858:1982, which has been technically revised 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.

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.

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*

3 Terms and definitions

For the purposes 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:

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

— ISO Online browsing platform: available at http://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 dying to a constant mass. The volume is calculated as a product of the linear dimensions of the test piece in stereometric method and measured as the volume of water displaced, or 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 absolutely dry (oven-dry) condition.

5 Stereometric method

5.1 Apparatus

5.1.1 Measuring instruments, capable of determining dimensions of the test piece to the nearest 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 precision of the instrument.

5.1.2 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.