



SLOVENSKI STANDARD
SIST EN 1910:2003

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Wood and parquet flooring and wood panelling and cladding - Determination of dimensional stability

Wood and parquet flooring and wood panelling and cladding - Determination of dimensional stability

Parkett und andere Holzfußböden und Wand- und Deckenbekleidungen aus Holz - Bestimmung der Dimensionsstabilität

Planchers et parquets en bois et lambris et bardages en bois - Détermination de la stabilité dimensionnelle

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79.080

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Semi-manufactures of timber

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EUROPEAN STANDARD

EN 1910

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2000

ICS 79.080

English version

Wood and parquet flooring and wood panelling and cladding - Determination of dimensional stability

Planchers et parquets en bois et lambris et bardages en
bois - Détermination de la stabilité dimensionnelle

Parkett und andere Holzfußböden und Wand- und
Deckenbekleidungen aus Holz - Bestimmung der
Dimensionsstabilität

This European Standard was approved by CEN on 27 November 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 175 "Round and sawn timber", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2000, and conflicting national standards shall be withdrawn at the latest by July 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

This document is one of a series of standards specifying requirements and test methods for wood and parquet flooring.

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1. Scope

This European standard specifies a method of test to determine the dimensional changes and warp of the elements of wood and parquet flooring and wood panelling and cladding.

2. Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

- prEN 13183-1:1998 Round and sawn timber - Method of measurement of moisture content – Part 1: Method for determining moisture content of a piece of sawn timber (Oven-dry method)
- prEN 13183-2:1998 Round and sawn timber- Method of measurement of moisture content – Part 2: Method for estimating moisture content of a piece of sawn timber (Electrical method)
- prEN 13756:1999 Wood floor covering - Terminology
- prEN 13647:1999 Wood and parquet flooring and wood panelling and cladding - Determination of geometrical characteristics

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3. Terms and definitions

For the purposes of this European Standard the general terms and definitions for wood and parquet flooring in prEN 13756:1999 apply.

4. Principle

Measure the dimensional changes of the test specimen after initial conditioning in a standard atmosphere and again after conditioning in a specified climate. Express the results as a percentage of variation of the relevant dimension measured in the initial standard climatic conditions.

Record the warp and relate to the basis of measurement.

5. Test equipment

5.1 Conditioning room or enclosure

The conditioning room or enclosure shall be equipped with monitoring thermometers and hygrometers. It shall be suitable to condition the test specimen either in:

- climate A, defined by a relative humidity of $(65 \pm 5) \%$ and a temperature of $(20 \pm 2) ^\circ\text{C}$,
- or
- climate B, defined by a relative humidity of $(50 \pm 5) \%$ and a temperature of $(23 \pm 2) ^\circ\text{C}$.

5.2 Stabilizing room or enclosure

The stabilizing room or enclosure shall be equipped with monitoring thermometers and hygrometers. It shall be capable of maintaining the conditions specified in table 1:

Table 1 - Conditions maintained by a stabilizing room or enclosure

	Condition No. 1	Condition No. 2
Temperature ^{a)}	20 °C	23 °C
Relative humidity ^{b)}		
Dry climate :	30 %	30 %
Humid climate :		
H1:	75 %	75 %
or		
H2:	85 %	85 %
a) The permitted deviation for temperature is ± 2 °C. b) The permitted deviation for relative humidity is ± 5 %.		

It shall be possible to change from one climate to another within 24 h.

5.3 Trays

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The trays shall provide non-continuous support to the test specimen in the conditioning and stabilizing rooms.

The clearance between supports shall be sufficient not to hinder the ventilation between the test specimens.

5.4 Measuring equipment

The length shall be measured with a vernier caliper of 300 mm useful length, or another apparatus giving the same accuracy. All other dimensions shall be measured as defined in prEN 13647:1999.

5.5 Scales

Scales shall be accurate to 0,1 % of the masses to be measured.

5.6 Oven

The oven shall be able to operate at (103 ± 2) °C to bring the test specimens to the dry state.

6. Test specimens

6.1 Dimensions and shape

The length of the test specimens shall be reduced to about 250 mm (depending on the usable range of the vernier caliper). The shape and other dimensions shall be as at the time of delivery.

6.2 Sampling

Unless otherwise specified, ten test specimens selected at random shall be taken.

6.3 Conditioning

Prior to exposure in the specified climate (5.2), the test specimen shall be conditioned for two weeks either in climate A or in climate B as defined in 5.1.

7. Measurements

7.1 Mass

In case of solid timber elements record the mass of each test specimen after initial conditioning (6.3) and after conditioning in the specified climate (5.2).

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7.2 Dimensions of the test specimen

Measure the dimensions as defined in prEN 13647:1999 and measure the reduced length (see 6.1) and the width.

7.3 Warp

Measure the warp as defined in prEN 13647:1999.

The forces applied to the test specimen with the apparatus shall not modify the measurements beyond the permitted deviations defined in this standard.

7.4 Moisture content

If required, the moisture content of an element is measured in its initial state and after the conditioning in dry and humid climates with one of the following methods:

- by weighing dehydration in an oven, as specified in prEN 13183-1:1998. The moisture content is calculated according to 9.1,
- with an electrical device, by measuring wood resistance, as specified in prEN 13183-2:1998.

8. Procedure

8.1 Initial measurements

Once the initial conditioning according to 6.3 is achieved, carry out the measurements defined in clause 7.

8.2 Exposure to the humid climate

After the initial measurements expose the test specimen to the specified humid climate, as defined in 5.2, for 4 weeks.

Achieve the correct conditions within 24 h.

8.3 Measurements after stabilisation in the humid climate

Carry out the measurements defined in clause 7.

8.4 Exposure to the dry climate

Once the measurements in 8.3 are recorded, expose the test specimen in the specified dry climate as defined in 5.2 for 4 weeks.

Achieve the correct conditions within 24 h.

8.5 Measurements after stabilisation in the dry climate

Carry out the measurements defined in clause 7.

The duration of each conditioning period can be reduced if variation of mass does not exceed 0,1 % between two successive measurements made in any 24 h interval.

8.6 Oven drying (for solid timber elements)

Once the test specimen has been through all the prescribed climates, proceed to its oven drying with the oven specified in 5.6. Oven dry state is reached if mass variation is not more than 0,1 % between two successive measurements made in any 24 h interval.

9. Expression of the results of a test specimen

9.1 Moisture content (solid timber element only)

Calculate using the following formula :

$$\omega = 100 \frac{m_s - m_d}{m_d}$$