



SLOVENSKI STANDARD

SIST EN 1910:2013

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Nadomešča:
SIST EN 1910:2003

Lesene talne obloge ter leseni stenski in stropni opaži - Ugotavljanje dimenzijske stabilnosti

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

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

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

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Ta slovenski standard je istoveten z: EN 1910:2013

ICS:

79.080

Polizdelki iz lesa

Semi-manufactures of timber

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EUROPEAN STANDARD

EN 1910

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

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

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

This European Standard was approved by CEN on 5 February 2013.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Foreword

This document (EN 1910:2013) 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of an identical text or by endorsement, at the latest by September 2013, and conflicting national standards shall be withdrawn at the latest by September 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1910:2000.

In comparison with the previous edition, the following changes have been modified:

The following clauses have been modified:

- 2 Normative references;
- 3 Terms and definitions;
- 4 Principle;
- 6.1 Dimensions and shape;
- 6.2 Sampling; <https://standards.iteh.ai/catalog/standards/sist/5ca153b2-d179-41c6-ae21-e49674d7061f/sist-en-1910-2013>
- 8.3 Measurements after stabilisation in the humid climate;
- 8.4 Exposure to the dry climate;
- 9.3 Warp.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 1910:2013 (E)**1 Scope**

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

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13183-1, *Moisture content of a piece of sawn timber — Part 1: Determination by oven dry method*

EN 13183-2, *Moisture content of a piece of sawn timber — Part 2: Estimation by electrical resistance method*

EN 13647, *Wood flooring and wood panelling and cladding — Determination of geometrical characteristics*

EN 13756:2002, *Wood flooring — Terminology*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13756:2002 and the following apply.

3.1 twist

deformation of the element lengthwise with a helical pattern

[SOURCE: EN 844-3:1995]

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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. The test specimen shall be lying in horizontal position in the test chamber. 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 ± 5) % and a temperature of (20 ± 2) °C,

or

— climate B, defined by a relative humidity of (50 ± 5) % and a temperature of (23 ± 2) °C.

5.2 Stabilising room or enclosure

The stabilising 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 stabilising 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

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

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

5.4 Measuring equipment

All the dimensions shall be measured as defined in EN 13647.

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

Tests specimens are elements at the time of the first delivery.

Measurements are made on the element: in case the element is more than 2 000 mm length, the element may be reduced in length to 2 000 mm without moisture sealed ends. One moisture sealed end shall be established on elements reduced to length shorter than 2 000 mm and both ends shall be moisture sealed if elements are reduced to length shorter than 1 000 mm. The shortest length of a reduced element is 250 mm.

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6.2 Sampling

The method of installation has impact on the dimensional stability.

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 to equilibrium either in climate A or in climate B as defined in 5.1.

7 Measurements

7.1 Mass

Record the mass of each test specimen after initial conditioning (6.3) and after conditioning in the specified climate (5.2).

7.2 Dimensions of the test specimen

Measure the dimensions as defined in EN 13647.

7.3 Warp

Measure the warp as defined in EN 13647.

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

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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 EN 13183-1. The moisture content is calculated according to 9.1;
- with an electrical device, by measuring wood resistance, as specified in EN 13183-2.

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 according to Table 1 within 24 h.

8.3 Measurements after stabilisation in the humid climate

Carry out the measurements defined in Clause 7 at least once a week and note them on report.

Achieve the correct conditions according to Table 1 within 24 h.

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.

Carry out the measurements defined in Clause 7 at least once a week and note them on report.

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

Once the test specimen has been through all the prescribed climates, proceed to its oven drying with the oven specified in 5.6. The test specimen may be reduced to 250 mm. 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 Calculation and expression of the results of a test specimen

9.1 Moisture content

Calculate using the following formula:

$$\omega = 100 \frac{m_s - m_d}{m_d} \quad (1)$$

where

ω is the moisture content of the test specimen, after each stabilisation process, in % to three significant figures;

m_d is the mass of the test specimen after oven drying, in g;

m_s is the mass of the test specimen after each stabilisation, in g.

9.2 Dimensional changes

In each direction, the cumulative relative change is calculated with the following formula:

$$d_{cr} = 100 \frac{\left(\frac{18}{h}\right) D_h - D_d}{D_i} \quad (2)$$