



SLOVENSKI STANDARD
SIST EN 323:1996

01-marec-1996

Lesne plošče - Ugotavljanje gostote

Wood-based panels - Determination of density

Holzwerkstoffe - Bestimmung der Rohdichte

Panneaux a base de bois - Détermination de la masse volumique

Ta slovenski standard je istoveten z: EN 323:1993

[SIST EN 323:1996](https://standards.iteh.ai/catalog/standards/sist/3a38a5e0-0b19-4677-9a33-5bdc9956b81d/sist-en-323-1996)

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ICS:

79.060.01	Lesne plošče na splošno	Wood-based panels in general
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en

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Descriptors: Wood-based panel, fibreboard, particleboard, plywood, OSB, cement-bonded particleboard, test method, density (mass/volume)

English version

Wood-based panels - Determination of density

Panneaux à base de bois - Détermination de la
masse volumique

Holzwerkstoffe - Bestimmung der Rohdichte

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard was prepared by Working Group 4 "Common test methods" (Secretariat: United Kingdom) of Technical Committee CEN/TC 112, Wood-based panels (Secretariat: Germany).

The text is based on ISO 9427:1989 which has been elaborated with European participation.

This standard is one of a series of standards specifying methods of test for determining dimensions and properties of wood-based panels.

No existing European Standard is superseded.

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of an identical text or by endorsement, at the latest by August 1993, and conflicting national standards shall be withdrawn at the latest by December 1994.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

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1 Scope

This European Standard specifies a method for determining the density of test pieces of wood-based panels. Such result may be used to estimate the density of wood-based panels according to EN 326-1.

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.

EN 325 Wood-based panels - Determination of dimensions of test pieces

EN 326-1 Wood-based panels - Sampling, cutting and inspection
Part 1: Sampling and cutting of test pieces and expression of test results ¹⁾

3 Principle

Density is determined as the ratio of the mass of each test piece, to its volume, both measured at the same moisture content, and the use of these results to estimate the density of whole boards.

4 Apparatus

4.1 Instrument for thickness measurement

Micrometer or similar measuring instrument, having flat and parallel circular measuring surfaces of (16 ± 1) mm diameter and an operation force of (4 ± 1) N. The graduation of the apparatus shall allow reading to 0,01 mm.

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1) At present at the draft stage

4.2 Instrument for length and width measurement

Sliding caliper, or any other instrument with measuring surfaces of at least 5 mm width, graduated to allow reading to 0,1 mm.

4.3 Balance

Balance, allowing measurement to 0,01 g.

5 Test pieces

5.1 Sampling and cutting

Sampling and cutting of the test pieces shall be carried out in accordance with EN 326-1.

5.2 Dimensions

The test pieces shall be square in shape, with sides of a nominal length of 50 mm.

In the case of extruded panels, cellular panels, or panels of similar structure with cavities parallel to the length or width of the test piece, the total length or width of the test piece shall be at least twice the length or width of any individual core element (i.e. two tube diameters plus two web thicknesses) and the test pieces shall have a symmetrical cross-sectional area as shown in figure 1:

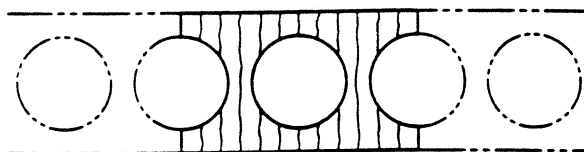


Figure 1: Cross-section of a tubular board

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5.3 Conditioning

If necessary, the test pieces shall be conditioned to constant mass in an atmosphere with a relative humidity of $(65 \pm 5) \%$ and a temperature of $(20 \pm 2) ^\circ\text{C}$. Constant mass is considered to be reached when the results of two successive weighing operations, carried out at an interval of 24 h, do not differ by more than 0,1 % of the mass of the test piece.

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6 Procedure

6.1 Weighing

Weigh each test piece to an accuracy of 0,01 g.

6.2 Measurement of dimensions

Measure the dimensions of each test piece, in accordance with EN 325, as follows.

a) Measure the thickness, t , at a point of the intersection of the diagonals as shown in Figure 2 (unless this coincides with a surface irregularity which may influence the measurement) to an accuracy of 0,05 mm.

Apply the measuring instrument slowly to the surfaces of the test piece.

Dimensions in millimetres

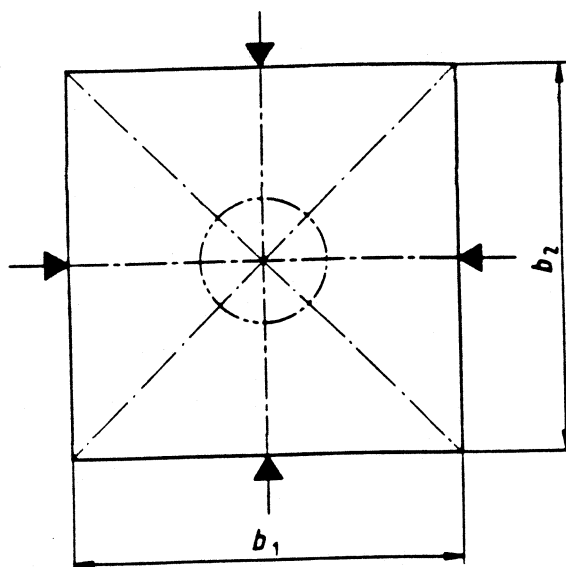


Figure 2: Point of measurement

b) Measure b_1 and b_2 , at two points, parallel to the edges of the test piece, along lines which pass through the centres of opposite edges as shown in figure 2, to an accuracy of 0,1 mm.

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7 Expression of results

7.1 The density ρ of each test piece (in kg/m^3) shall be calculated from the formula:

$$\rho = \frac{m}{b_1 \times b_2 \times t} \times 10^6$$

where

m is the mass of the test pieces in g

b_1 , b_2 and t are in mm, as defined in 6.2

7.2 The density of a board shall be obtained by calculating the arithmetic mean of the densities of all the test pieces taken from the same board and is expressed in kg/m^3 to three figures.

8 Test report

As described in EN 326-1.