



SLOVENSKI STANDARD

SIST EN 312-1:1997

01-april-1997

Iverne plošče - Specifikacije - 1. del: Splošne zahteve za vse vrste plošč

Particleboards - Specifications - Part 1: General requirements for all board types

Spanplatten - Anforderungen - Teil 1: Allgemeine Anforderungen an alle Plattentypen

Panneaux de particules - Exigences - Partie 1: Exigences générales pour tous types de panneaux

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Ta slovenski standard je istoveten z: EN 312-1:1996

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ICS:

79.060.20 Vlaknene in iverne plošče Fibre and particle boards

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EUROPEAN STANDARD

EN 312-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 1996

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English version

Particleboards - Specifications - Part 1: General requirements for all board types

Panneaux de particules - Exigences - Partie 1: Spanplatten - Anforderungen - Teil 1:
Exigences générales pour tous types de panneaux Allgemeine Anforderungen an alle Plattentypen

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This European Standard was approved by CEN on 1996-07-26. 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.

The European Standards exist 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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 has been prepared by Technical Committee CEN/TC 112 "Wood-based panels", the secretariat of which is held by DIN.

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 February 1997, and conflicting national standards shall be withdrawn at the latest by June 1997.

This Standard is one of a series specifying requirements for particleboards. The other parts of this series are listed in clause 2.

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According to the CEN/CENELEC Internal Regulations, the national standards organizations of 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 and the United Kingdom.

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1 Scope

This European Standard specifies the requirements for some properties, which are common for all types of uncoated particleboards according to EN 312 parts 2 to 7.

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 120

Wood-based panels – Determination of formaldehyde content – Extraction method called the perforator method

EN 312-2

Particleboards – Specifications – Part 2: Requirements for general purpose boards for use in dry conditions

EN 312-3

Particleboards – Specifications – Part 3: Requirements for boards for interior fitments (including furniture) for use in dry conditions

EN 312-4

Particleboards – Specifications – Part 4: Requirements for load-bearing boards for use in dry conditions

prEN 312-5

Particleboards – Specifications – Part 5: Requirements for load-bearing boards for use in humid conditions

EN 312-6

Particleboards – Specifications – Part 6: Requirements for heavy duty load-bearing boards for use in dry conditions

prEN 312-7

Particleboards – Specifications – Part 7: Requirements for heavy duty load-bearing boards for use in humid conditions

EN 322

Wood-based panels – Determination of moisture content

EN 323

Wood-based panels – Determination of density

EN 324-1

Wood-based panels – Determination of dimensions of boards – Part 1: Determination of thickness, width and length

EN 324-2

Wood-based panels – Determination of dimensions of boards – Part 2: Determination of squareness and edge straightness

3 Requirements

Particleboards shall comply with the general requirements as listed in table 1 when dispatched from the producing factory. For certain types or uses of particleboards (see specific standards for board types and performance standards), or in the case of dispatch in cut sizes, or further machined, (tongued and grooved, and similar), special tolerances for properties No. 1, 2 and 3 may be agreed upon.

Table 1: General requirements at dispatch

No	Property	Test method	Requirement
1 ¹⁾	Tolerances on nominal dimensions – Thickness (sanded) within and between boards – Thickness (unsanded) within and between boards – Length and width	EN 324-1	±0,3 mm –0,3 mm +1,7 mm ±5 mm
2 ¹⁾	Edge straightness tolerance	EN 324-2	1,5 mm per m
3 ¹⁾	Squareness tolerance	EN 324-2	2 mm per m
4	Moisture content	EN 322	5 % to 13 %
5 ¹⁾	Tolerance on the mean density within a board	EN 323	±10 %
6 ²⁾	Formaldehyde potential (perforator value) Class 1: Class 2:	EN 120	≤ 8 mg/100 g > 8 mg/100 g ≤ 30 mg/100 g

¹⁾ These values are characterized by a moisture content in the material corresponding to a relative humidity of 65 % and a temperature of 20 °C.

²⁾ The perforator values apply to boards with moisture contents H of 6,5 %. In the case of particleboards with different moisture content (in the range of 3 % ≤ H ≤ 10 %) the perforator value shall be multiplied by a factor F which can be calculated from the following equation:

$$F = -0,133 H + 1,86$$

4 Verification of compliance

4.1 General

Verification of compliance with this European Standard shall be carried out using the test methods listed in table 1.

4.2 External control

External control of the factory, if any, shall be carried out according to statistical basis³⁾.

Inspections of consignments shall be carried out according to statistical basis³⁾.

In the case of formaldehyde potential, however, for both external control and inspection of a consignment of panels, the respective requirement set out in table 1 shall be met by the average value of at least three boards controlled. Additionally, no individual board is allowed to exceed an upper tolerances limit of + 10 %.

4.3 Internal control

Internal control shall be carried out according to statistical basis³⁾.

The properties listed in table 1 shall be controlled using intervals between tests not exceeding those given in table 2. Sampling shall be carried out at random. Alternative test methods and/or unconditioned test pieces may be used if a valid correlation to the specified test methods can be proven (see EN 326-2³⁾). The intervals between tests given in table 2 are related to a production under statistical control.

Each requirement relating to formaldehyde potential (perforator value) shall be met by the 95 percentile value based on test values of individual boards. The 95 percentile value shall be equal to or less than the respective tabulated value given in table 1.

Table 2: Maximum intervals between tests for each production line

Property	Maximum interval between tests
Moisture content	8 h per type of board
Formaldehyde potential ¹⁾	
Class 1	24 h per type of board
Class 2	1 week per type of board
All other properties listed in table 1	8 h per type and thickness range
¹⁾ Certain types of particleboards are known to release little or no formaldehyde. In these cases, the test intervals may be increased. However, it remains the responsibility of the manufacturer or inspection agency, if any, to ensure compliance with this European Standard.	

5 Marking

Marking of particleboards shall be carried out in accordance with EN 312-2 to EN 312-7 respectively.

Colour coding is voluntary. If applied, it shall comply with the system shown in Annex A. This standard does not exclude the dyeing of the whole board or of certain layers of the board according to traditional national practices.

³⁾ It is intended to apply prEN 326-2 and prEN 326-3 as a statistical basis when implemented.

Annex A (normative)**Voluntary colour coding system for particleboards**

Two colours are used in each case. The first colour defines the panel as either intended for general purpose use or for load bearing applications (either one or two stripes of this colour are used). The second colour identifies the panel as being suitable for use in either dry or humid conditions.

The colour used are as follows:

First colour – white: General purpose

First colour – yellow: Load-bearing

Second colour – blue: Dry conditions

Second colour – green: Humid conditions

Table A.1: Colour coding for particleboards complying with European Standards

Specification	Colour code	EN
General use, dry	white, white, blue	312-2
Interior fitments, dry	white, blue	312-3
Load-bearing, dry	yellow, yellow, blue	312-4
Load-bearing, humid	yellow, yellow, green	312-5
Heavy duty load-bearing, dry	yellow, blue	312-6
Heavy duty load-bearing, humid	yellow, green	312-7

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Annex B (informative)**Bibliography**

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EN 309

Particleboards – Definition and classification

EN 326-1

Wood-based panels – Sampling, cutting and inspection – Part 1: Sampling and cutting of test pieces and expressions of test results

prEN 326-2

Wood-based panels – Sampling, cutting and inspection – Part 2: Quality control in the factory

prEN 326-3

Wood-based panels – Sampling, cutting and inspection – Part 3: Inspection of consignment of panels

Annex C (informative)

A deviations

A – deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC member.

Austria:

In Austria, the law (Formaldehyde ordinance, Federal Nr. 194/1990) requires that wood-based panels shall not be put on the market if the formaldehyde concentration of wood-based material exceeds 0,1 ml/m³ (ppm equilibrium concentration of the formaldehyde in the air of a test chamber).

The limit value is based on the following data of the test chamber:

Volume of the chamber: 40 m³ ± 10 %

Air-humidity: 45 % ± 3 %

Temperature: 23 °C ± 0,5 °C

Air exchange rate: 1/h

Loading rate: 1 m² board surface area/1 m³ test chamber volume

Denmark:

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Deviating national regulations: Danish Building regulations BR 1982 and BR 1985.

The provisions laid down in these regulations contain 2 optional methods of certification and quality control of wood-based panels concerning formaldehyde release.

Clause 1: Particleboard, plywood and other types of wood based panels bonded with a formaldehyde emitting resin may as maximum emit an amount of formaldehyde corresponding to an equilibrium concentration of 0,15 mg formaldehyde/m³ air by testing in a climate chamber.

Clause 2: In the absence of evidence that the requirements of clause 1 are fulfilled, panels may only be used, the free formaldehyde content of which does not exceed 25 mg/100 g dry matter of board. For applications like walls, ceilings, flooring, doors and equipment the panels shall be post-treated in accordance with methods approved by the Danish Ministry of Housing. Post-treatment can be omitted by application in non-human occupational areas.

Research and development in resins and board manufacturing technology very soon changed the basis of these provisions. Consequently in 1982, the Ministry of Housing and the Danish Control Organisation for Wood Based Panels (TP) agreed to reduce the limit values of formaldehyde content to 10 mg/100 g dry matter of board, corresponding to class E1 of the German formaldehyde regulations, DIBt-Richtlinie 100, June 1994.

In October 1991, the test methods (Prüfverfahren für Holzwerkstoffe) in relation to the German Hazardous Materials Regulation (Gefahrstoffverordnung) were published. The formaldehyde requirements laid down in these regulations were adopted by the Danish Control organisation for Wood Based Panels (TP).