SLOVENSKI STANDARD
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Vlaknene ploġ e - Specifikacije - 2. del: Zahteve za trde ploġ e

Fibreboards - Specifications - Part 2: Requirements for hardboards

Faserplatten - Anforderungen - Teil 2: Anforderungen an harte Platten

Panneaux de fibres - Exigences - Partie 2: Exigences pour panneaux durs

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79.060.20 Vlaknene in iverne ploġ e Fibre and particle boards

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Fibreboards - Specifications - Part 2: Requirements for hardboards

Panneaux de fibres - Exigences - Partie 2: Exigences pour panneaux durs

Faserplatten - Anforderungen - Teil 2: Anforderungen an harte Platten

This European Standard was approved by CEN on 2 February 2004.

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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.

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Contents

Page

Foreword

This document (EN 622-2:2004) 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of an identical text or by endorsement, at the latest by October 2004, and conflicting national standards shall be withdrawn at the latest by October 2004.

Annexes A, B and C are normative.

This standard is one of a series specifying requirements for fibreboards. The other parts of this series are listed in clause 2 and in the bibliography.

This document supersedes EN 622-2:1997.

The following modifications have been made:

a) The quality requirements of the panel types HB, HB.HLA1 and HB.HLA2 have been modified.

b) The test interval for moisture resistance has been reduced in accordance with EN 13986.

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

1 Scope

This European Standard specifies the requirements for hardboards as defined in EN 316.

The values listed in this standard relate to product properties but they are not characteristic values to be used in design calculations[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 (including amendments).

EN 310:1993, *Wood-based panels — Determination of modulus of elasticity in bending and of bending strength.*

EN 317, *Particleboards and Fibreboards — Determination of swelling in thickness after immersion in water.*

EN 318, *Wood-based panels — Determination of dimensional changes associated with changes in relative humidity.*

EN 319, *Particleboards and Fibreboards — Determination of tensile strength perpendicular to the plane of the board.*

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

EN 326-2, *Wood-based panels — Sampling, cutting and inspection — Part 2: Quality control in the factory.*

EN 326-3, *Wood-based panels — Sampling, cutting and inspection — Part 3: Inspection of an isolated lot of panels.*

EN 382-2, *Fibreboards — Determination of surface absorption — Part 2: Test method for hardboards.*

EN 622-1, *Fibreboards — Specifications — Part 1: General requirements.*

EN 1087-1:1995, *Particleboards — Determination of moisture resistance — Part 1: Boil test.*

EN 12871, *Wood-based panels — Performance specifications and requirements for load-bearing boards for use in floors, walls and roofs.*

EN 13986:2002, *Wood-based panels for use in construction — Characteristics, evaluation of conformity and marking.*

ENV 1995-1-1:1993, *Eurocode 5 — Design of timber structures — Part 1-1: General rules and rules for buildings.*

ISO 3340, *Fibre building boards — Determination of sand content.*

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1) Such characteristic values (e.g. for use in design calculation in ENV 1995-1-1) are either given EN 12369-1 or derived by testing according to EN 789, EN 1058 and ENV 1156.

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1
dry conditions
conditions corresponding to service class 1 of ENV 1995-1-1:1993 which is characterised by a moisture content in the material corresponding to a temperature of 20 °C and a relative humidity of the surrounding air only exceeding 65 % for a few weeks per year
[EN 13986:2002]

3.2
humid conditions
conditions corresponding to service class 2 of ENV 1995-1-1:1993 which is characterised by a moisture content in the material corresponding to a temperature of 20 °C and a relative humidity of the surrounding air only exceeding 85 % for a few weeks per year
[EN 13986:2002]

3.3
external conditions
conditions corresponding to service class 3 of ENV 1995-1-1:1993 which is characterised by climatic conditions leading to higher moisture contents than in service class 2
[EN 13986:2002]

3.4
general purpose use
all non-load bearing applications, e.g. furniture and fitments

3.5
load-bearing use
use in a load-bearing construction, i.e. an organized assembly of connected parts designed to provide mechanical resistance and stability to the works. Also referred to as “structure”

3.6
load duration category
see Table 1

Table 1 — Load duration categories

Load duration category	Order of accumulated duration of characteristic load	Examples of loading
Permanent	more than 10 years	self weight
Long-term	6 months to 10 years	storage
Medium-term	1 week to 6 months	imposed load
Short-term	less than one week	snow[a], wind
Instantaneous		accidental loading

[a] In areas which have a heavy snow load for a prolonged period of time, part of the load should be regarded as medium-term.

4 Requirements

4.1 General

Hardboards shall comply with the general requirements of EN 622-1 together with the relevant requirements set out in 4.2 and 4.3 of this standard. The requirements for some supplementary properties are given in annex A.

The requirements in Tables 2 to 7 shall be met by 5 percentile values (95 percentile values in the case of swelling in thickness), based on the mean test values for individual panels and calculated in accordance with EN 326-1. In the case of swelling in thickness, they shall be equal to or less than the values in the Tables, and in the case of all other properties, they shall be equal to or greater than the values in the Tables. The values in the Tables for both bending strength and modulus of elasticity shall apply to test results obtained in any direction in the plane of the panel.

With the exception of swelling in thickness, internal bond after boil test (see Tables 3, 4, 6, 7) and bending strength after boil test (see Table 7), the values given in the tables are characterised by a moisture content in the material corresponding to a temperature of 20 °C and a relative humidity of 65 %. The values given for swelling in thickness, internal bond after boil test and bending strength after boil test are characterised by a moisture content in the material corresponding to a temperature of 20 °C and a relative humidity of 65 % before the treatment (immersion in water or boil treatment).

The moisture resistance of hardboards for use in humid and exterior conditions (see Tables 3, 4, 6 and 7) is assessed either as internal bond after boil test (according to EN 1087-1), with the modified procedure given in annex B, or as bending strength after boil test (according to EN 1087-1), with the modified procedure given in annex C. These two testing procedures are regarded as equivalent alternatives. Where requirements for both procedures are given, compliance with only one set of specifications is required (see Table 7).

4.2 Requirements for general purpose boards

4.2.1 Requirements for boards for use in dry conditions

Table 2 specifies the requirements for general purpose boards for use in dry conditions, e.g. interior fitments including furniture.

Table 2 — Requirements for general purpose boards for use in dry conditions (type HB)

Property	Test method	Unit	Ranges of nominal thickness (mm)		
			≤ 3,5	> 3,5 to 5,5	> 5,5
Swelling in thickness 24 h	EN 317	%	37	30	25
Internal bond	EN 319	N/mm^2	0,50	0,50	0,50
Bending strength	EN 310	N/mm^2	30	30	25

4.2.2 Requirements for boards for use in humid conditions

Table 3 specifies the requirements for general purpose boards for use in humid conditions.

Table 3 — Requirements for general purpose boards for use in humid conditions (type HB.H)

Property	Test method	Unit	Ranges of nominal thickness (mm)		
			≤ 3,5	> 3,5 to 5,5	> 5,5
Swelling in thickness 24 h	EN 317	%	25	20	20
Internal bond	EN 319	N/mm^2	0,60	0,60	0,30
Bending strength	EN 310	N/mm^2	35	32	30
Internal bond after boil test[a]	EN 319 EN 1087-1	N/mm^2	0,30	0,30	0,25
[a] For the determination of internal bond after boil test, the modified procedure given in annex B applies.					

4.2.3 Requirements for boards for use in exterior conditions

Table 4 specifies the requirements for general purpose boards for use in exterior conditions.

Table 4 — Requirements for general purpose boards for use in exterior conditions (type HB.E)

Property	Test method	Unit	Ranges of nominal thickness (mm)		
			≤ 3,5	> 3,5 to 5,5	> 5,5
Swelling in thickness 24 h	EN 317	%	12	10	8
Internal bond	EN 319	N/mm^2	0,70	0,60	0,50
Bending strength	EN 310	N/mm^2	40	35	32
Modulus of elasticity in bending	EN 310	N/mm^2	3 600	3 100	2 900
Internal bond after boil test[a]	EN 310 EN 1087-1	N/mm^2	0,50	0,42	0,35
[a] For the determination of internal bond after boil test, the modified procedure given in annex B applies.					