SLOVENSKI STANDARD
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Vlaknene plošče - Specifikacije - 4. del: Zahteve za mehke plošče

Fibreboards - Specifications - Part 4: Requirements for softboards

Faserplatten - Anforderungen - Teil 4: Anforderungen an poröse Platten

Panneaux de fibres - Exigences - Partie 4 : Exigences pour panneaux isolants

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ICS:

79.060.20 Vlaknene in iverne plošče Fibre and particle boards

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EUROPEAN STANDARD

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Fibreboards - Specifications - Part 4: Requirements for softboards

Panneaux de fibres - Exigences - Partie 4 : Exigences pour panneaux isolants

Faserplatten - Anforderungen - Teil 4: Anforderungen an poröse Platten

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

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European foreword

This document (EN 622-4:2019) 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of an identical text or by endorsement, at the latest by December 2019, and conflicting national standards shall be withdrawn at the latest by December 2019.

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

This document supersedes EN 622-4:2009.

This European Standard is one of a series of standards specifying requirements for fibreboards. The other parts of this series are listed in Clause 2 and in the Bibliography.

Compared with EN 622-4:2009 the following modifications have been made:

a) bending strength for thickness range > 36 mm reduced;

b) normative references updated;

c) editorially revised.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This document specifies the requirements for softboards as defined in EN 316, with a density from 230 kg/m^3 to 400 kg/m^3.

The values listed in this document relate to product properties but they are not characteristic values to be used in design calculations.

NOTE Panels which are intended for use exclusively as thermal insulating products are covered by EN 13171.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

EN 316, *Wood fibre boards — Definition, classification and symbols*

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

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: Initial type testing and factory production control*

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

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

EN 13986:2004+A1:2015, *Wood-based panels for use in construction — Characteristics, evaluation of conformity and marking*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13986:2004+A1:2015 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
dry conditions
conditions corresponding to service class 1 of EN 1995-1-1 which is characterized 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

Note 1 to entry: Boards of this type are suitable for use only in use class 1 of EN 335.

[SOURCE: EN 13986:2004+A1:2015, 3.8.2, modified, Note 1 to entry has been added]

3.2
humid conditions
conditions corresponding to service class 2 of EN 1995-1-1 which is characterized 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

Note 1 to entry: Boards of this type are suitable for use only in use classes 1 and 2 of EN 335.

[SOURCE: EN 13986:2004+A1:2015, 3.8.3, modified, Note 1 to entry has been added]

3.3
external conditions
conditions corresponding to service class 3 of EN 1995-1-1 which is characterized by climatic conditions leading to higher moisture contents than in service class 2

Note 1 to entry: Boards of this type are suitable for use only in use classes 1, 2 and 3 of EN 335.

[SOURCE: EN 13986:2004+A1:2015, 3.8.4, modified, Note 1 to entry has been added]

3.4
general purpose use
all non-load-bearing applications

EXAMPLE Fitments and underlays.

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.

Note 1 to entry: Also referred to as "structure".

3.6
load duration class
class characterized by the effect of a constant load acting for a certain period of time in the life of the structure

Note 1 to entry: The load duration classes are defined in EN 1995-1-1 (see Table 1).

Table 1 — Load duration class

Load duration class	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

Softboards 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 in the tables 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, the values given in the tables are characterized 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 are characterized 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).

The moisture resistance of softboards for use in humid and external conditions (see Tables 3, 4 and 6) is reflected by the respective requirements for swelling in thickness after 2 h immersion in cold water (according to EN 317). This property as well as the improvement of mechanical resistance of boards use in instantaneous or short-term load-bearing situation is derived from the addition of a hydrophobic substance such as a petrochemical or a natural substance.

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.

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

Property	Test method	Unit	Ranges of nominal thickness (mm)			
			≤ 10	> 10 to 19	> 19 to 36	> 36
Swelling in thickness 2 h	EN 317	%	10	10	10	10
Bending strength	EN 310	N/mm^2	0,9	0,8	0,8	0,4

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 SB.H)

Property	Test method	Unit	Ranges of nominal thickness (mm)			
			≤ 10	> 10 to 19	> 19 to 36	> 36
Swelling in thickness 2 h	EN 317	%	7	7	7	7
Bending strength	EN 310	N/mm^2	1,1	1,0	0,8	0,4

4.2.3 Requirements for boards for use in external conditions

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

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

Property	Test method	Unit	Ranges of nominal thickness (mm)			
			≤ 10	> 10 to 19	> 19 to 36	> 36
Swelling in thickness 2 h	EN 317	%	6	6	6	6
Bending strength	EN 310	N/mm^2	1,2	1,1	0,9	0,4

4.3 Requirements for load-bearing boards

4.3.1 Requirements for boards for use in dry conditions

Table 5 specifies the requirements for load-bearing boards for use in dry conditions for instantaneous or short-term load duration only.