SLOVENSKI STANDARD
SIST EN 622-3:1998

01-marec-1998

Vlaknene plošče - Specifikacije - 3. del: Zahteve za srednje plošče

Fibreboards - Specifications - Part 3: Requirements for medium boards

Faserplatten - Anforderungen - Teil 3: Anforderungen an mittelharte Platten

Panneaux de fibres - Exigences - Partie 3: Exigences pour panneaux mi-durs

Ta slovenski standard je istoveten z: EN 622-3:1997

ICS:

79.060.20 Vlaknene in iverne plošče Fibre and particle boards

SIST EN 622-3:1998 en

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 622-3

June 1997

ICS 79.060.20

Descriptors: wooden boards, fibreboards, insulating boards, characteristics, specifications, environments, humidity, conformity tests, marking

English version

Fibreboards - Specifications - Part 3: Requirements for medium boards

Panneaux de fibres - Exigences - Partie 3: Exigences pour panneaux mi-durs

Faserplatten - Anforderungen - Teil 3: Anforderungen an mittelharte Platten

This European Standard was approved by CEN on 1997-04-21. 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, Czech Republic, 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

Ref. No. EN 622-3:1997 E

Contents

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

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 1997, and conflicting national standards shall be withdrawn at the latest by December 1997.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

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

1 Scope

This European Standard specifies the requirements for medium boards 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.

EN 310 : 1993
Wood-based panels – Determination of modulus of elasticity in bending and of bending strength

EN 316
Wood fibreboards – Definition, cassification, and symbols

EN 317
Particleboards and Fibreboards – Determination of swelling in thickness after immersion in water

EN 318
Fibreboards – 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 320
Fibreboards – Determination of resistance to axial withdrawal of screws

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

EN 622-1
Fibreboards – Specifications – Part 1: General requirements

EN 1087-1 : 1995
Particleboards – Moisture resistance – Part 1: Boil test

ISO 3340
Fibre building boards – Determination of sand content

---

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

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 dry conditions: conditions (defined in terms of service class 1 of ENV 1995-1-1 for load-bearing boards) characterized by a moisture content in the material corresponding to a temperature of 20 °C and a relative humidity of the surrounding air exceeding 65 % only for a few weeks per year. Boards of this type are suitable for use only in hazard class 1 of EN 335-3.

3.2 humid conditions: conditions (defined in terms of service class 2 of ENV 1995-1-1 for load-bearing boards) characterized by a moisture content in the material corresponding to a temperature of 20 °C and a relative humidity of the surrounding air exceeding 85 % only for a few weeks per year. Boards of this type are suitable for use in hazard classes 1 and 2 of EN 335-3.

3.3 exterior conditions: imply exposure to weathering conditions or to liquid water or to water vapour in a damp but ventilated location. Boards of this type are suitable for use in hazard classes 1, 2 and 3 of EN 335-3.

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*), wind
Instantaneous		accidental loading

*) 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

Medium boards 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.

This 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 326-2. 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.

Properties not required for specific board types are marked "–".

With the exception of swelling in thickness, internal bond after boil test (see tables 7, 8) and bending strength after boil test (see tables 3, 4, 8), 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 medium boards for use in humid and exterior conditions (see tables 3, 4, 7 and 8) is assessed either as internal bond after boil test (according to EN 1087-1 : 1995), with the modified procedure given in Annex B, or as bending strength after boil test (according to EN 1087-1 : 1995), 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 8).

NOTE: This procedure should only be regarded as an interim measure pending the result of a pre-normative research programme to develop a solution independent of the board composition.

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 (types MBL and MBH)

Property	Test method	Unit	Ranges of nominal thickness (mm) Board types			
			≤ 10		> 10	
			MBL	MBH	MBL	MBH
Swelling in thickness 24 h	EN 317	%	20	15	20	15
Internal bond	EN 319	N/mm²	–	0,10	–	0,10
Bending strength	EN 310	N/mm²	10	15	8	12

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 (types MBL.H and MBH.H)

Property	Test method	Unit	Ranges of nominal thickness (mm) Board types			
			≤ 10		> 10	
			MBL.H	MBH.H	MBL.H	MBH.H
Swelling in thickness 24 h	EN 317	%	15	10	15	10
Internal bond	EN 319	N/mm²	–	0,30	–	0,30
Bending strength	EN 310	N/mm²	12	18	10	15
Bending strength after boil test*)	EN 310 EN 1087-1	N/mm²	–	6	–	5

*) EN 1087-1 : 1995 applies with the modified procedure given in Annex C. Bending strength after boil test is calculated on the initial dimensions of the test piece (before boil treatment).

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 (types MBL.E und MBH.E)

Property	Test method	Unit	Ranges of nominal thickness (mm) Board types			
			≤ 10		> 10	
			MBL.E	MBH.E	MBL.E	MBH.E
Swelling in thickness 24 h	EN 317	%	9	6	9	6
Internal bond	EN 319	N/mm²	–	0,30	–	0,30
Bending strength	EN 310	N/mm²	14	21	12	18
Modulus of elasticity in bending	EN 310	N/mm²	–	2 400	–	2 200
Bending strength after boil test*)	EN 310 EN 1087-1	N/mm²	–	8	–	6

*) EN 1087-1 : 1995 applies with the modified procedure given in Annex C. Bending strength after boil test is calculated on the initial dimensions of the test piece (before boil treatment).

4.3 Requirements for load-bearing boards

4.3.1 General

Requirements for load-bearing boards are only applicable to **high-density medium boards** of the generic type **MBH**.

4.3.2 Requirements for boards for use in humid conditions

Table 5 specifies the requirements for load-bearing boards for use in dry conditions **for all load duration categories.**

Table 5: Requirements for load-bearing boards for use in dry conditions (type MBH.LA1)

Property	Test method	Unit	Ranges of nominal thickness (mm)	
			≤ 10	> 10
Swelling in thickness 24 h	EN 317	%	15	15
Internal bond	EN 319	N/mm²	0,10	0,10
Bending strength	EN 310	N/mm²	18	15
Modulus of elasticity in bending	EN 310	N/mm²	1 800	1 600
NOTE: If it is made known by the purchaser that the boards are intended for specific use in flooring, walls or roofing, the relevant performance standard also has to be consulted. This may result in additional requirements having to be complied with.				

Table 6 specifies the requirements for heavy-duty load-bearing boards for use in dry conditions **for all load duration categories.**

Table 6: Requirements for heavy-duty load-bearing boards for use in dry conditions (type MBH.LA2)

Property	Test method	Unit	Ranges of nominal thickness (mm)	
			≤ 10	> 10
Swelling in thickness 24 h	EN 317	%	15	15
Internal bond	EN 319	N/mm²	0,20	0,20
Bending strength	EN 310	N/mm²	21	18
Modulus of elasticity in bending	EN 310	N/mm²	2 700	2 500
NOTE: If it is made known by the purchaser that the boards are intended for specific use in flooring, walls or roofing, the relevant performance standard also has to be consulted. This may result in additional requirements having to be complied with.				