SLOVENSKI STANDARD
SIST EN 13986:2005/kFprA1:2014

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Lesne plošče za uporabo v gradbeništvu - Lastnosti, vrednotenje skladnosti in označevanje

Wood-based panels for use in construction - Characteristics, evaluation of conformity and marking

Holzwerkstoffe zur Verwendung im Bauwesen - Eigenschaften, Bewertung der Konformität und Kennzeichnung

Panneaux à base de bois destinés à la construction - Caractéristiques, évaluation de conformité et marquage

Ta slovenski standard je istoveten z: **EN 13986:2004/FprA1**

ICS:

79.060.01	Lesne plošče na splošno	Wood-based panels in general

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Wood-based panels for use in construction - Characteristics, evaluation of conformity and marking

Panneaux à base de bois destinés à la construction - Caractéristiques, évaluation de conformité et marquage

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This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 112.

This draft amendment A1, if approved, will modify the European Standard EN 13986:2004. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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Contents

Page

Foreword

This document (EN 13986:2004/FprA1:2014) has been prepared by Technical Committee CEN/TC 112 “Wood-based panels”, the secretariat of which is held by DIN.

This document is currently submitted to the Unique Acceptance Procedure.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports basic work requirements of Regulation (EU) No 305/2011(CPR) and the essential requirements of EU Directive(s).

For relationship with EU Regulation and Directive(s), see informative Annex ZA which is an integral part of this document.

This document amends EN 13986:2004.

Compared with EN 13986:2004 the following modifications have been made to take into account amendment of mandate M113 (M444) made after the publication of the current 2004 version of the standard:

a) introduction of “Racking resistance”, “Embedment strength” and “Air permeability” in Tables 1 to 7, as relevant;

b) introduction of a new sub-clause 4.8 to deal with dangerous substances other than those already covered in the standard;

c) additional provisions for classification of reaction to fire included in Clause 5, Table 8;

d) Clause 6 and Annex ZA adapted to CEN/BT documents TF N 548 Rev1 and TF N 530 Rev. 2, respectively, to meet the terminology and requirements of the Construction Products Regulation;

Note: Due to fact that the Framework Partnership Agreement between the Commission and CEN & CENELEC is not signed yet, there are currently no New Approach Consultants in place for 2014. Therefore the provisions of CEN-CENELEC Guide 15 cannot be met.

This shall not prevent the processing of draft standards nor the offering of harmonized standards to the Commission. In particular, draft standards can be sent to vote without Consultant assessment.

This note will be removed from the Foreword of the finalized publication.

1 Modifications to Clause 2 "Normative references"

Add the following references:

"EN 383, *Timber structures — Test methods — Determination of embedment strength and foundation values for dowel type fasteners*"

"EN 594, *Timber structures — Test methods — Racking strength and stiffness of timber frame wall panels*"

"EN 12114, *Thermal performances of buildings — Air permeability of building components and building elements — Laboratory test method*"

"EN 15197, *Wood-based panels — Flaxboards — Specifications*"

Replace

"*prEN 622-5*" *with* "*EN 622-5*".

"*ENV 717-1*" *with* "*EN 717-1*"

"*prEN 789 with EN 789*"

"*prEN 1995-1-1 with EN 1995-1-1*"

"ENV 12872" *with* "CEN/TS 12872".

"*prEN 14279 with EN 14279*"

"*prEN 14755 with EN 14755*"

2 Modifications to Clause 4 "Performance characteristics required for wood-based panels for use in construction"

4.1 Wood based panels for internal use as structural components in dry conditions

In the last line of the paragraph replace "(7 to 15)" *with* "(7 to 17)".

Insert the following lines in Table 1:

"

16	Racking resistance	5.15.3
17	Embedment strength	5.19

"

4.2 Wood based panels for internal use as structural components in humid conditions

In the last line of the paragraph replace "(8 to 16)" *with* "(8 to 18)".

Insert the following lines in Table 2:

"

17	Racking resistance	5.15.3
18	Embedment strength	5.19

"

4.3 Wood based panels for external use as structural components

In the last line of the paragraph replace "(8 to 15)" *with* "(8 to 18)":

Insert the following lines in Table 3:

"

16	Air permeability	5.20
17	Racking resistance	5.15.3
18	Embedment strength	5.19
NOTE 2 Air permeability is relevant only for use as wind barriers.		

"

Rename current NOTE in Table 3 "NOTE 1".

4.6 Wood-based panels for external use as non-structural components

In the last line of the paragraph replace "(6 to 11)" *with* "(6 to 12)".

Insert the following line in Table 6:

"

12	Air permeability	5.20
NOTE Air permeability is relevant only for use as wind barriers.		

"

4.7 Wood-based panels for use as structural floor and roof decking on joists and as structural wall sheathing on studs

In the last line of the paragraph replace "(8 to 18)" *with* "(8 to 20)".

Insert the following lines in Table 7:

"

19	Racking resistance	5.15.3
20	Embedment strength	5.19

"

Add the following new sub-clause after 4.7:

"

4.8 Other dangerous substances

National regulations on dangerous substances may require, when construction products covered by this standard are placed on those markets, verification and declaration on release, and sometimes on content, of other substances than those already covered in other clauses of this standard.

In the absence of European harmonized test methods, verification and declaration on release/content should be done taking into account national provisions in the place of use.

NOTE An informative database covering European and national provisions on dangerous substances is available at the Construction web site on EUROPA accessed through:
http://ec.europa.eu/enterprise/construction/cpd-ds/

"

3 Modifications to Clause 5 "Determination of the performance characteristics "

Replace the existing text in 5.8 with the following:

"The class of reaction to fire performance of a wood-based panel (including the additional classification on smoke production and flaming droplets/particles, if any) shall be determined, classified and declared:

a) either without the need for further testing (CWFT), as given in Table 8[1)], if the panel meets the material characteristics and the end use conditions given therein,

b) or based on testing of the panel according to the relevant test methods, given in standards referred to in EN 13501-1, when the panel does not meet the requirements of Table 8 or where a higher classification than the one in a) is sought.

When the option b) is applied and where required by the test method, the panels shall be mounted and fixed in a manner representative of its intended end use.

Table 8 — Classes of reaction to fire performance for wood-based panels

Product	EN product standard	End use condition [f]	Minimum density kg/m^3	Minimum thickness mm	Class [g] (excluding floorings)	Class [h] (floorings)
Cement-bonded particleboard[a]	EN 634-2	without an air gap behind the panel	1000	10	B-S1, d0	B_{fl}-s1
Fibreboard, hard [a]	EN 622-2		900	6	D-s2,d0	D_{fl}-s1
Fibreboard, hard [c]	EN 622-2	with a closed air gap not more than 22 mm behind the wood-based panel	900	6	D-s2,d2	-
Particleboard [a b e]	EN 312	without an air gap behind the wood-based panel	600	9	D-s2,d0	D_{fl}-s1
Fibreboard, hard and medium [a b e]	EN 622-2 EN 622-3					
MDF [a b e]	EN 622-5					
OSB [a b e]	EN 300					
Plywood [a b e]	EN 636		400	9	D-s2,d0	D_{fl}-s1
Solid wood panel [a b e]	EN 13353			12		
Flaxboard[a b e]	EN 15197		450	15	D-s2,d0	D_{fl}-s1
Particleboard[c e]	EN 312	with a closed or an open air gap not more than 22 mm behind the wood-based panel	600	9	D-s2,d2	-
Fibreboard, hard and medium [c e]	EN 622-2 EN 622-3					
MDF [c e]	EN 622-5					
OSB [c e]	EN 300					
Plywood [c e]	EN 636		400	9	D-s2,d2	-
Solid wood panel [c e]	EN 13353			12		

1) This table is the same as Table 1 of Commission Decision 2003/43/EC of 17 January 2003 (OJEU L13 of 18.1.2003) corrected by Corrigendum (OJEU L33 of 8-2-2003) and amended by Commission Decision 2007/348/EC of15 May 2007 (OJEU L131 of 23-05-2007)

Table 8 *(continued)*

Product	EN product standard	End use condition [f]	Minimum density (kg/m^3)	Minimum thickness (mm)	Class [g] (excluding floorings)	Class [h] (floorings)
Particleboard [d e]	EN 312	with a closed air gap behind the wood-based panel	600	15	D-s2,d0	D_{fl}-s1
Fibreboard, medium [d e]	EN 622-3					
MDF [d e]	EN 622-5					
OSB [d e]	EN 300					
Plywood [d e]	EN 636		400	15	D-s2,d1	D_{fl}-s1
Solid wood panel [d e]	EN 13353				D-s2,d0	
Flaxboard [d e]	EN 15197		450	15	D-s2,d0	D_{fl}-s1
Particleboard [d e]	EN 312	with an open air gap behind the wood-based panel	600	18	D-s2,d0	D_{fl}-s1
Fibreboard, medium [d e]	EN 622-3					
MDF [d e]	EN 622-5					
OSB [d e]	EN 300					
Plywood [d e]	EN 636		400	18	D-s2,d0	D_{fl}-s1
Solid wood panel [d e]	EN 13353					
Flaxboard [d e]	EN 15197		450	18	D-s2,d0	D_{fl}-s1
Particleboard [e]	EN 312	any	600	3	E	E_{fl}
OSB [e]	EN 300					
MDF [e]	EN 622-5		400	3	E	E_{fl}
			250	9	E	E_{fl}
Plywood [e]	EN 636		400	3	E	E_{fl}
Fibreboard, hard [e]	EN 622-2		900	3	E	E_{fl}
Fibreboard, medium [e]	EN 622-3		400	9	E	E_{fl}
Fibreboard, soft	EN 622-4		250	9	E	E_{fl}

[a] Mounted without an air gap directly against class A1 or A2-s1, d0 products with minimum density 10kg/m^3 or at least class D-s2, d2 products with minimum density 400 kg/m^3.

[b] A substrate of cellulose insulation material of at least class E may be included if mounted directly against the wood-based panel, but not for floorings.

[c] Mounted with an air gap behind. The reverse face of the cavity shall be at least class A2-s1, d0 products with minimum density 10 kg/m^3.

[d] Mounted with an air gap behind. The reverse face of the cavity shall be at least class D-s2, d2 products with minimum density 400 kg/m^3.

[e] Veneered, phenol- and melamine-faced panels are included for class excl. floorings.

[f] A vapour barrier with a thickness up to 0,4 mm and a mass up to 200 g/m^2 can be mounted in between the wood-based panel and a substrate if there are no air gaps in between.

[g] Class as provided for in Table 1 of the Annex to Decision 2000/147/EC.

[h] Class as provided for in Table 2 of the Annex to Decision 2000/147/EC.

The classes given in Table 8 are for unjointed panels, tongue and groove jointed panels, installed according to CEN/TS 12872 and fully supported joints, installed according to CEN/TS 12872."

Add the following new sub-clause:

"

5.15.3 Racking resistance (wall sheathing on studs)

Where required the characteristic racking strength $F_{Rd,max,k}$ (N) and mean stiffness R_{mean} (N/mm) for wood-based panels used as wall sheathing on studs shall be determined according to EN 594. The value can only be used for the tested system.

Alternatively, those parameters which enable the racking strength to be calculated from EN 1995-1-1 can be declared. For this calculation the panel thickness t and the characteristic lateral load carrying capacity $F_{v,k}$ of the actual combination of panel and fastener shall be declared.

NOTE Knowing the characteristic embedment strength f_h a lower bound for $F_{v,k}$ can be calculated from EN 1995-1-1."

Add the following new sub-clauses:

"

5.19 Embedment strength

Where required, the embedment strength f_h shall be determined according to EN 383 and declared as its characteristic value in Newtons per square millimeter (N/mm^2). In addition, the type and diameter of the fasteners used for the test shall be declared.

The declared characteristic value for the embedment strength is valid only for the type and diameter of the fastener used for the tests.

Alternatively,those parameters which enable the characteristic embedment strength to be calculated from e.g. EN 1995-1-1 should be declared.

NOTE The use of other design codes is sometimes required by national provisions.

For plywood the characteristic density ρ_k should be declared, for hardboard, particleboard and OSB the panel thickness t should be declared.

5.20 Air permeability

The air permeability of wood-based panels is relevant only for external use and shall be determined and expressed, where required, as the air permeability coefficient according to EN 12114."

4 Modifications to Clause 6 "Evaluation of conformity"

Replace the existing Clause 6 with the following:

"

6 Assessment and verification of constancy of performance - AVCP

6.1 General

The compliance of wood-based panels with the requirements of this standard and with the performances declared by the manufacturer in the DoP shall be demonstrated by:

— determination of the product type on the basis of type testing;

— factory production control by the manufacturer, including product assessment.

The manufacturer shall always retain the overall control and shall have the necessary means to take responsibility for the conformity of the product with its declared performance(s).

6.2 Type testing

6.2.1 General

All performances related to characteristics included in this standard shall be determined when the manufacturer intends to declare the respective performances unless the standard gives provisions for declaring them without performing tests (e.g. use of previously existing data, CWFT and conventionally accepted performance).

Assessment previously performed in accordance with the provisions of this standard, may be taken into account provided that they were made to the same or a more rigorous test method, under the same AVCP system on the same product or products of similar design, construction and functionality, such that the results are applicable to the product in question.

For the purposes of assessment, the manufacturer's products may be grouped into families, where it is considered that the results for one or more characteristics from any one product within the family are representative for that same characteristics for all products within that same family.

NOTE 1 Products may be grouped in different families for different characteristics.

NOTE 2 Reference to the assessment method standards will be made to allow the selection of a suitable representative sample.

In addition, the determination of the product type shall be performed for all characteristics included in the standard for which the manufacturer declares the performance:

— at the beginning of the production of a new or modified wood-based panel (unless a member of the same product range), or

— at the beginning of a new or modified method of production (where this may affect the stated properties); or

they shall be repeated for the appropriate characteristic(s), whenever a change occurs in the wood-based panel design, in the raw material or in the supplier of the components, or in the method of production (subject to the definition of a family), which would affect significantly one or more of the characteristics.

Where components are used whose characteristics have already been determined, by the component manufacturer, on the basis of assessment methods of other product standards, these characteristics need not be re-assessed. The specifications of these components shall be documented.

Products bearing regulatory marking in accordance with appropriate harmonized European specifications may be presumed to have the performances declared in the DoP, although this does not replace the responsibility on the wood-based panel manufacturer to ensure that the wood-based panel as a whole is correctly manufactured and its component products have the declared performance values.

6.2.2 Test samples, testing and compliance criteria

Where sampling of wood-based panels for type testing is required the general principles and definitions of EN 326-1 and EN 326-2 apply. The number of samples shall be in accordance with Table 11.

Table 11 — Number of samples to be tested and compliance criteria

Characteristic	Requirement	Assessment method	No. of samples (panels)	Compliance criteria
Bending strength	Clause 4 and Annex A	5.1	12 or 6[a]	Clause 4 and Annex A
Bending stiffness (Modulus of elasticity)	Clause 4 and Annex A	5.2	12 or 6[a]	Clause 4 and Annex A
Durability – Bonding strength	Clause 4 and Annex A	5.3	12 or 6[a]	Clause 4 and Annex A
Durability – Internal bond (Tensile strength)	Clause 4 and Annex A	5.4	12 or 6[a]	Clause 4 and Annex A
Durability – Swelling in thickness	Clause 4 and Annex A	5.5	12 or 6[a]	Clause 4 and Annex A
Durability (Moisture resistance)				
Internal bond after cyclic test (EN 321)	Clause 4 and Annex A	5.6	12 or 6[a]	Clause 4 and Annex A
Internal bond after boil test (EN 1087-1)	Clause 4 and Annex A		12 or 6[a]	Clause 4 and Annex A
Bending strength after cyclic test (EN 321)	Clause 4 and Annex A		12 or 6[a]	Clause 4 and Annex A
Release or content of formaldehyde	Clause 4 and Annex B	5.7	1	Clause 4 and Annex B
Reaction to fire	Clause 4	5.8	3	Clause 4
Water vapour permeability	Clause 4	5.9	5	Clause 4
Airborne sound insulation	Clause 4	5.10	1	Clause 4
Sound absorption	Clause 4	5.11	1	Clause 4
Thermal conductivity	Clause 4	5.12	10	Clause 4
Strength and stiffness for structural use	Clause 4	5.13	32	Clause 4
Impact resistance for structural use	Clause 4	5.14	5 test points for roofs and floors 3 test points for walls	Clause 4
Strength and stiffness under point load for structural use and	Clause 4	5.15	12 test points	Clause 4