



SLOVENSKI STANDARD

kSIST FprEN 14732:2014

01-oktober-2014

Lesene konstrukcije - Konstrukcijski montažni stenski, stropni in strešni elementi - Zahteve

Timber structures - Structural prefabricated wall, floor and roof elements - Requirements

Holzbauwerke - Tragende vorgefertigte Wand-, Decken- und Dachelemente -
Anforderungen

Structures en bois - Eléments structurels de mur, de plancher et de toiture préfabriqués -
Exigences

Ta slovenski standard je istoveten z: FprEN 14732

ICS:

91.060.01	Stavbni elementi na splošno	Elements of buildings in general
91.080.20	Lesene konstrukcije	Timber structures

kSIST FprEN 14732:2014

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

FINAL DRAFT
FprEN 14732

June 2014

ICS 91.060.01; 91.080.20

English Version

Timber structures - Structural prefabricated wall, floor and roof elements - Requirements

Structures en bois - Eléments structurels de mur, de plancher et de toiture préfabriqués - Exigences

Holzbauwerke - Tragende vorgefertigte Wand-, Decken- und Dachelemente - Anforderungen

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 124.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	5
1 Scope	6
2 Normative references	6
3 Terms, definitions and symbols.....	9
3.1 Terms and definitions	9
3.2 Symbols	12
4 Performance characteristics and testing of components	12
4.1 Framing members	12
4.1.1 Structural timber	12
4.1.2 Finger jointed timber	12
4.1.3 Glued laminated timber and glued solid timber	12
4.1.4 Laminated veneer lumber (LVL)	13
4.1.5 Structural, prefabricated wood-based beams and columns	13
4.2 Panels and/or boards	13
4.2.1 Wood-based panels	13
4.2.2 Gypsum boards.....	13
4.3 Adhesives	13
4.3.1 General.....	13
4.3.2 Phenolic, melamine or melamine-urea adhesives.....	14
4.4 Mechanical fasteners and connectors.....	14
4.5 Thermal insulation materials and systems	14
4.6 Water vapour control layers	14
4.7 Flexible sheets for water-proofing	14
5 Performance characteristics and testing of prefabricated elements	14
5.1 General.....	14
5.2 Mechanical resistance of the elements	15
5.2.1 General.....	15
5.2.2 Determination and declaration	15
5.3 Bonding strength (Strength of joints).....	16
5.3.1 Bond shear strength and wood-failure-percentage	16
5.3.2 Strength of mechanically fixed joints	17
5.4 Thermal insulation properties	17
5.5 Water vapour permeability and moisture resistance	18
5.6 Fire performance.....	18
5.6.1 Reaction to fire.....	18
5.6.2 Fire resistance.....	18
5.7 Release of dangerous substances.....	19
5.7.1 General.....	19
5.7.2 Release of formaldehyde	20
5.7.3 Pentachlorophenol content	20
5.7.4 Release of other dangerous substances	20
5.8 Durability	20
5.8.1 General.....	20
5.8.2 Structural timber, glued laminated timber, glued solid timber, LVL and wood-based panels.....	21
5.8.3 Metal parts	21
5.8.4 Durability of bonding strength	21
5.9 Tolerances	21

5.9.1	Elements and openings	21
5.9.2	Spacing and edge distances of mechanical fasteners	23
5.9.3	Bond line thickness	23
5.10	Moisture content of element components at the time of assembly	23
6	Assessment and verification of constancy of performance - AVCP	23
6.1	General	23
6.2	Type testing	23
6.2.1	General	23
6.2.2	Test samples, testing and compliance criteria	24
6.2.3	Test reports	28
6.2.4	Shared other party results	28
6.2.5	Cascading determination of the product type results	29
6.2.6	Additional provisions for structural elements	30
6.3	Factory production control (FPC)	30
6.3.1	General	30
6.3.2	Requirements	31
6.3.3	Product specific requirements	39
6.3.4	Initial inspection of factory and of FPC	40
6.3.5	Continuous surveillance, assessment and evaluation of the FPC	41
6.3.6	Procedure for modifications	41
6.3.7	One-off products, pre-production products (e.g. prototypes) and products produced in very low quantity	42
7	Marking and labelling	42
8	Instructions and Safety informations	43
Annex A	(normative) Bond line shear strength test for adhesively fixed joist-panel bonds	44
A.1	General	44
A.2	Glue line shear test	44
A.2.1	Principle	44
A.2.2	Testing machine	44
A.3	Specimen preparation	44
A.4	Procedure	45
A.5	Results	45
A.6	Test report	45
Annex B	(normative) Requirements for bonding and cramping	48
B.1	Bonding requirements	48
B.2	Cramping requirements	48
Annex C	(normative) Bond shear strength evaluation	50
C.1	Calculation	50
C.2	Control chart	50
C.3	Conformity	50
Annex D	(normative) Minimum production provisions	51
D.1	Element construction	51
D.2	Premises	51
D.2.1	General	51
D.2.2	Storage	51

FprEN 14732:2014 (E)

D.2.3	Additional requirements for production of adhesively bonded elements	51
D.3	Equipment	51
D.3.1	General.....	51
D.3.2	Additional requirements for adhesively bonded elements	51
D.4	Production	52
D.4.1	Tolerances of elements	52
D.4.2	Assembly of framework and panels	52
D.4.3	Assembling by bonding	52
D.5	Element documents.....	52
D.6	Personal.....	52
Annex E (informative)	Reaction to fire performance - Classified without further testing (CWFT).....	53
E.1	General.....	53
E.2	Structural timber, glulam, wood-based panels.....	53
E.3	Gypsum plasterboards.....	57
E.3.1	Classification.....	57
E.3.2	Mounting and fixing.....	57
Annex ZA (informative)	Clauses of this European Standard addressing the provisions of the EU Construction Products Regulation	58
ZA.1	Scope and relevant characteristics	58
ZA.2	Procedure for AVCP of prefabricated wall, floor and roof elements	63
ZA.2.1	System(s) of AVCP	63
ZA.2.2	Declaration of performance (DoP)	66
ZA.2.2.1	General	66
ZA.2.2.2	Content.....	67
ZA.2.2.3	Examples of DoP	67
ZA.3	CE marking and labelling	72
ZA.3.1	General.....	72
Bibliography	78

Foreword

This document (FprEN 14732:2014) has been prepared by Technical Committee CEN/TC 124 “Timber structures”, the secretariat of which is held by AFNOR.

This document is currently submitted to the UAP 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.

For relationship with EU Regulations, see informative Annex ZA which is an integral part of this document.

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.

FprEN 14732:2014 (E)**1 Scope**

This European Standard sets out provisions regarding the performance characteristics for prefabricated structural (load-bearing) wall, floor and roof elements consisting of framing members of timber, glued solid timber, glued laminated timber, laminated veneer lumber (LVL), structural prefabricated wooden beams/columns and sheeting made of wood-based boards/panels or gypsum boards/panels on one or both sides, for use in service class 1 or 2 in accordance with EN 1995-1-1.

This European Standard also specifies additional requirements for the components and for the production of the elements.

It sets down requirements for the provision of performance details of prefabricated elements at point of delivery.

The panels and/or boards are connected to the framing members by suitable structural adhesive bonding or by mechanical fixing. The elements may be insulated or uninsulated. The exterior faces of the elements may also be covered with insulation material.

This European Standard covers glued and mechanically fixed wall elements with length of maximal 16,5 m, height of maximal 3,2 m and of unrestricted thickness.

This European Standard covers mechanically fixed floor and roof elements with length of maximal 16,5 m and a thickness of maximal 1,0 m and a width of maximal 3,5 m. The mechanically fixed floor element may include additional bond lines to increase stiffness to enlarge resistance versus vibrations.

This European Standard covers glued floor and roof elements with length of maximal 12,5 m and a load bearing cross-sectional thickness of maximal 0,35 m and a width of maximal 3,5 m.

This European Standard identifies structural (3.1.4) and non-structural (3.1.3) components to be used in the elements.

This European Standard also lays down provisions and Procedures for Assessment and Verification of Constancy of Performance of these elements.

This European Standard applies to elements that may have openings, e.g. for windows, doors etc. It does not apply to the properties of incorporated doors or windows.

This European Standard does not cover components and elements treated to enhance their fire performance.

Examples of different build-ups are given in Clause 3.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 120, *Wood based panels - Determination of formaldehyde content - Extraction method called the perforator method*

EN 300, *Oriented Strand Boards (OSB) - Definitions, classification and specifications*

EN 301:2013, *Adhesives, phenolic and aminoplastic, for load-bearing timber structures - Classification and performance requirements*