



SLOVENSKI STANDARD
kSIST FprEN 845-2:2012

01-december-2012

Specifikacija za dodatne komponente zidovja - 2. del: Preklade

Specification for ancillary components for masonry - Part 2: Lintels

Festlegungen für Ergänzungsbauteile für Mauerwerk - Teil 2: Stürze

Ta slovenski standard je istoveten z: FprEN 845-2

ICS:

91.060.10	Stene. Predelne stene. Fasade	Walls. Partitions. Facades
91.080.30	Zidane konstrukcije	Masonry

kSIST FprEN 845-2:2012 **en,fr,de**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

FINAL DRAFT
FprEN 845-2

September 2012

ICS 91.080.30

Will supersede EN 845-2:2003

English Version

Specification for ancillary components for masonry - Part 2: Lintels

Festlegungen für Ergänzungsbauteile für Mauerwerk - Teil
2: Stürze

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 125.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	4
1 Scope.....	5
2 Normative references	5
3 Terms, definitions and symbols	6
3.1 Terms and definitions.....	6
3.2 Symbols	8
4 Materials.....	11
4.1 Steel lintels	11
4.2 Concrete lintels	11
4.3 Masonry lintels	12
4.4 Combined and composite lintels.....	13
5 Requirements	13
5.1 General.....	13
5.2 Dimensions, mass and limit deviations.....	13
5.2.1 Dimensions.....	13
5.2.2 Mass per unit area.....	14
5.2.3 Built-in length.....	14
5.2.4 Deviation from declared values.....	14
5.3 Mechanical performance and information to obtain the mechanical performance	14
5.3.1 Single lintels, combined lintels and composite lintels	14
5.3.2 Prefabricated part of composite lintels	15
5.4 Durability.....	16
5.4.1 General.....	16
5.4.2 Steel lintels	16
5.4.3 Concrete lintels and masonry lintels	16
5.5 Water penetration and installation	16
5.6 Thermal properties.....	16
5.7 Freeze/thaw resistance.....	17
5.7.1 General.....	17
5.7.2 Steel lintels	17
5.7.3 Concrete lintels	17
5.7.4 Masonry lintels	17
5.8 Resistance to fire	17
5.9 Water absorption.....	17
5.9.1 General.....	17
5.9.2 Steel lintels	17
5.9.3 Other lintels	17
5.10 Water vapour permeability	18
5.11 Dangerous substances.....	18
6 Description and designation.....	18
7 Marking	21
8 Evaluation of conformity.....	22
8.1 General.....	22
8.2 Initial type tests	22
8.2.1 General.....	22
8.2.2 Single lintels, combined lintels and composite lintels as defined in 3.1	22
8.2.3 Prefabricated part of composite lintels	23
8.3 Factory production control	23

8.3.1	General	23
8.3.2	Testing and measuring equipment	24
8.3.3	Production equipment	24
8.3.4	Raw materials	24
8.3.5	Production process	24
8.3.6	Finished product testing	24
8.3.7	Statistical techniques	24
8.3.8	Marking and stock control of products	25
8.3.9	Traceability	25
8.3.10	Nonconforming products	25
8.4	Sampling for initial type testing and independent testing of consignments.....	25
Annex A (informative) Method for assessment of loads on lintels		26
Annex B (informative) Recommendations for installation of lintels		27
B.1	Bearings	27
B.2	Installation	27
B.3	Composite lintels	27
Annex C (normative) Corrosion protection systems		28
C.1	Steel lintels	28
C.2	Concrete and masonry lintels (except those manufactured using autoclaved aerated concrete)	31
C.3	Lintels manufactured using autoclaved aerated concrete	32
Annex D (informative) Guidance on FPC frequencies		33
Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive		35
Bibliography		42

Foreword

This document (FprEN 845-2:2012) has been prepared by Technical Committee CEN/TC 125 "Masonry", the secretariat of which is held by BSI.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 845-2:2003.

This document 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).

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

This part has been modified to take into account comments made in the five-year review on the 2003 version. A change has been made in the permission to use historic test data when arriving at declared values; a limited permission is also given for the use of calculation methods in certain cases.

EN 845, *Specification for ancillary components for masonry*, consists of the following parts:

- *Part 1: Wall ties, tension straps, hangers and brackets;*
- *Part 2: Lintels;*
- *Part 3: Bed joint reinforcement of steel meshwork.*

1 Scope

This European Standard specifies requirements for prefabricated lintels for maximum spans of 4,5 m and made from steel, autoclaved aerated concrete, manufactured stone, concrete, fired clay units, calcium silicate units, natural stone units, or a combination of these materials. Concrete and steel beams conforming to EN 1090-1, EN 12602 and EN 13225, as appropriate, are not covered by this Standard.

Prefabricated lintels can be either complete lintels or the prefabricated part of a composite lintel.

This European Standard is not applicable to:

- a) lintels completely made on site;
- b) lintels of which, the tensile parts are made on site;
- c) timber lintels;
- d) natural stone lintels, not reinforced.

Linear components spanning clear openings greater than 4,5 m in masonry walls and linear components intended for use independently in a structural role (e.g. beams) are not covered by this standard.

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 206-1:2000, *Concrete — Part 1: Specification, performance, production and conformity*

EN 771 (all parts), *Specification for masonry units*

EN 772-1, *Methods of test for masonry units — Part 1: Determination of compressive strength*

EN 772-11, *Methods of test for masonry units — Part 11: Determination of water absorption of aggregate concrete, autoclaved aerated concrete, manufactured stone and natural stone masonry units due to capillary action and the initial rate of water absorption of clay masonry units*

EN 846-9, *Methods of test for ancillary components for masonry — Part 9: Determination of flexural resistance and shear resistance of lintels*

EN 846-11, *Methods of test for ancillary components for masonry — Part 11: Determination of dimensions and bow of lintels*

EN 846-13:2001, *Methods of test for ancillary components for masonry — Part 13: Determination of resistance to impact, abrasion and corrosion of organic coatings*

EN 846-14, *Methods of test for ancillary components for masonry — Part 14: Determination of the initial shear strength between the prefabricated part of a composite lintel and the masonry above it*

EN 990, *Test methods for verification of corrosion protection of reinforcement in autoclaved aerated concrete and lightweight aggregate concrete with open structure*

EN 998-2:2010, *Specification for mortar for masonry — Part 2: Masonry mortar*

FprEN 845-2:2012 (E)

EN 1745, *Masonry and masonry products — Methods for determining thermal properties*

EN 10080, *Steel for the reinforcement of concrete — Weldable reinforcing steel — General*

EN 10088 (all parts), *Stainless steels*

prEN 10138 (all parts), *Prestressing steels*

EN 10346:2009, *Continuously hot-dip coated steel flat products — Technical delivery conditions*

EN 12602:2008, *Prefabricated reinforced components of autoclaved aerated concrete*

EN 13501-2, *Fire classification of construction products and building elements — Part 2: Classification using data from fire resistance test,s excluding ventilation services*

EN ISO 1461, *Hot dip galvanized coatings on fabricated iron and steel articles — Specifications and test methods (ISO 1461)*

EN ISO 1463, *Metallic and oxide coatings — Measurement of coating thickness — Microscopical method (ISO 1463)*

3 Terms, definitions and symbols

3.1 Terms and definitions

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

NOTE 1 Examples of lintel types are shown in Figures 1 to 3. The figures are only for illustration of lintel types. Other details such as bearings, thermal insulation systems and damp proof courses are not shown.

NOTE 2 General dimensions defined in Clause 3 are illustrated in Figures 3 and 4.

3.1.1

autoclaved aerated concrete lintel

lintel manufactured using reinforced autoclaved aerated concrete

3.1.2

bearing length

length of the end of a lintel which bears on its support

3.1.3

built-in length

minimum length needed to anchor the reinforcing bars

3.1.4

clear opening

clear distance between lintel supports

3.1.5

combined lintel

lintel consisting of two or more structural elements each one acting with compression and tension zones

3.1.6

composite lintel

lintel comprising a prefabricated part and a complementary element of in-situ masonry or concrete above, acting together