



**SLOVENSKI STANDARD**  
**SIST EN 771-4:2011/kFprA1:2014**  
**01-oktober-2014**

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**Specifikacija za zidake - 4. del: Zidaki iz avtoklaviranega celičnega betona**

Specification for masonry units - Part 4: Autoclaved aerated concrete masonry units

Festlegungen für Mauersteine - Teil 4: Porenbetonsteine

Spécifications pour éléments de maçonnerie - Partie 4: Éléments de maçonnerie en béton cellulaire autoclavé

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**Ta slovenski standard je istoveten z: EN 771-4:2011/FprA1**

<https://standards.iteh.ai/catalog/standards/sist/cd44282c-9fe8-4a72-8b22-f13ab19c193d/sist-en-771-4-2011-kfpra1-2014>

**ICS:**

91.100.30	Beton in betonski izdelki	Concrete and concrete products
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**SIST EN 771-4:2011/kFprA1:2014**      **en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

FINAL DRAFT  
EN 771-4:2011

FprA1

July 2014

ICS 91.100.30

English Version

## Specification for masonry units - Part 4: Autoclaved aerated concrete masonry units

Spécifications pour éléments de maçonnerie - Partie 4:  
Éléments de maçonnerie en béton cellulaire autoclavé

Festlegungen für Mauersteine - Teil 4: Porenbetonsteine

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

This draft amendment A1, if approved, will modify the European Standard EN 771-4:2011. 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.

This draft amendment 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.

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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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## Foreword

This document (EN 771-4:2011/FprA1:2014) 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 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.

**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.

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**EN 771-4:2011/FprA1:2014 (E)****1 Modification to Foreword**

*Replace the 5<sup>th</sup> and the 6<sup>th</sup> paragraphs with the following:*

“This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association and supports basic requirements for construction works of the EU Construction Products Regulation (Regulation (EU) No 305/2011).

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

**2 Modification to the Scope**

*Add the following paragraph after the 1<sup>st</sup> paragraph:*

“This European Standard includes AAC masonry units with an incorporated insulation not exposed to fire, and masonry units of an overall rectangular parallelepiped shape, especially shaped and accessory units. AAC masonry units may consist of layers of different densities where not all of the layers are loadbearing.”.

*Replace the 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs with the following:*

“It provides for the assessment and verification of constancy of performance (AVCP) of the product to this European Standard.

The marking requirement for products covered by this European Standard is included.”.

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**3 Modification to 3.2**

[SIST EN 771-4:2011/kFprA1:2014](https://standards.iteh.ai/catalog/standards/sist/cd44282c-9fe8-4a72-8b22-f13ab19c193d/sist-en-771-4-2011-kfpra1-2014)

*Replace the existing definition 3.2 with:* <https://standards.iteh.ai/catalog/standards/sist/cd44282c-9fe8-4a72-8b22-f13ab19c193d/sist-en-771-4-2011-kfpra1-2014>

**“3.2****autoclaved aerated concrete (AAC) masonry unit**

masonry unit manufactured from hydraulic binders such as cement and/or lime, combined with siliceous based fine material, cell generating material and water and cured with high pressure steam in autoclaves

Note 1 to entry: AAC masonry units may be provided with recesses, tongued and grooved jointing systems and other interlocking features and different hollow forms such as units with a ‘U’ shape or with vertical or rectangular perforation.”.

**4 Modification to 4.1, General**

*Replace the NOTE with the following:*

“NOTE The raw materials are mixed together and cast into moulds where the mix is allowed to rise and set into cakes. After this part of the process, the cake is cut into the required sizes of masonry units and cured in autoclaves.”.

**5 Modification to 5.1, General**

*In the 3<sup>rd</sup> paragraph, replace “relates to initial type testing” with “relate to product type determination.”.*

**6 Modification to 5.4.2, Net dry density**

*Replace the NOTE with the following:*

“NOTE The net density of AAC masonry units is normally less than 1 000 kg/m<sup>3</sup>.”.

## 7 Modification to 5.5, Compressive strength

*In the 1<sup>st</sup> paragraph, add “for loadbearing masonry” after “1,5 N/mm<sup>2</sup>” to read:*

“The strength of the masonry units in compression shall be declared in N/mm<sup>2</sup> by the manufacturer and shall not be less than 1,5 N/mm<sup>2</sup> for loadbearing masonry (declared value — for definition see 3.15) It shall be expressed as one of:”

*Replace the 3<sup>rd</sup> paragraph with the following:*

“In addition, the manufacturer shall declare whether the autoclaved aerated concrete masonry unit is Category I or Category II (see ZA.2). If AAC masonry units are sampled from a consignment in accordance with Annex A and tested in accordance with EN 772-1 the compressive strength shall not be less than the declared value and no individual masonry unit measured within the test sample shall have a compressive strength of less than 80 % of the mean declared value or 90 % of the characteristic declared value. When units are conditioned in accordance with 7.3.3 b) the values shall be brought to the air dry condition in accordance with EN 772-1:2011, Annex A.”.

## 8 Modification to 5.10, Water absorption

*In the 1<sup>st</sup> paragraph, replace “put” with “placed”.*

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## 9 Modification to 5.11, Reaction to fire

*In the 1<sup>st</sup> paragraph, add “AAC masonry” after “for” to read:*

“For AAC masonry units intended to be used in elements subject to fire requirements the manufacturer shall declare the reaction to fire classification of the masonry unit.”.

## 10 Addition of a subclause 5.14

*Add a new clause:*

**EN 771-4:2011/FprA1:2014 (E)****“5.14 Dangerous substances**

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

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/>."

**11 Modification to 6.1, Description and designation**

Replace the NOTE with the following:

“NOTE 1 Refer to clause ZA.3 for (CE) marking.”.

**12 Modification to Clause 8, Evaluation of conformity**

Replace the title with the following:

“Assessment and verification of constancy of performance (AVCP)”.

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**13 Modification to 8.1, General (standards.iteh.ai)**

Replace the text 8.1 with the following:

[SIST EN 771-4:2011/kFprA1:2014](https://standards.iteh.ai/catalog/standards/sist/cd44282c-9fe8-4a72-8b22-f13ab19c193d/sist-en-771-4-2011-kfprA1-2014)

"The manufacturer shall demonstrate compliance of this product with the requirements of this European Standard and with the declared performance for the product properties by carrying out both:

- product type determination (see 8.2), which can be physical testing, calculation, reference to tabulated values or combinations of these methods;
- factory production control (see 8.3).

Alternative methods of test to the reference methods in this European Standard may be adopted except for the product type determination tests and in case of dispute, provided that these alternative methods satisfy the following:

- a) a relationship can be shown to exist between the results from the test and those from alternative test;
- b) a safe relationship can be demonstrated when using the alternative method compared to the reference methods and
- c) the information on which the relationship is based is available for inspection.”.

**14 Modification to 8.2, Initial type tests**

Replace 8.2 with the following:

**“8.2 Product type determination**



After completion of the development of a new product type and before placing on the market, appropriate product type determination tests shall be carried out to confirm that the achieved properties of the product meet the requirements of this standard and the performance of the characteristics to be declared for it by the manufacturer.

Whenever a major change in the source, blend, or nature of raw materials occurs, or when there is a change in processing conditions, leading to what the manufacturer considers will constitute a new product type being produced, the appropriate product type determination shall be repeated.

The manufacturer may define product groups. The product group may differ according to the characteristics in question.

In the product type determination process a manufacturer may take in consideration already existing results.

A manufacturer may use the product type determination results determined by someone else (e.g. another manufacturer or a research, technology & development service provider) to justify his own declaration of performance regarding a product that is manufactured according to the same design and with raw materials, constituents and manufacturing methods of the same kind, provided that permission is given by the owner of the results, and the results are valid for both products.

The tests to be conducted shall be the tests or calculations as described in Table A.1 for the properties selected from the following list relevant to the manufacturer's declaration for the product types intended use.

- Dimensions;
- Gross dry density; iTeh STANDARD PREVIEW
- Net dry density; (standards.iteh.ai)
- Compressive strength; [SIST EN 771-4:2011/kFprA1:2014](https://standards.iteh.ai/catalog/standards/sist/cd44282c-9fe8-4a72-8b22-f13ab19c193d/sist-en-771-4-2011-kfpra1-2014)
- Moisture movement; <https://standards.iteh.ai/catalog/standards/sist/cd44282c-9fe8-4a72-8b22-f13ab19c193d/sist-en-771-4-2011-kfpra1-2014>
- Thermal properties;
- Bond strength;
- Water vapour permeability;
- Water absorption;
- Reaction to fire;
- Durability.

Sampling for product type determination shall be in accordance with Annex A.

The results of the type tests shall be recorded.

NOTE For the performance characteristics to be determined in order to address the Declaration of Performance and CE marking provisions, see Table ZA.1.”.

## 15 Modification to 8.3.1, General

*In the 1<sup>st</sup> paragraph, replace “values” with “performance of the characteristics”.*

**EN 771-4:2011/FprA1:2014 (E)****16 Modification to 8.3.10, Nonconforming products**

*Replace the 1<sup>st</sup> paragraph with the following:*

“The procedure for dealing with nonconforming products shall be documented. Products that do not conform with the requirements or the performance of the product type shall be segregated and marked accordingly. However, these products may be reassessed by the manufacturer and assigned to a different product type.”.

**17 Modification to Annex A**

*Replace the title with the following:*

“Sampling for product type determination test and for independent testing of consignments”.

**18 Modification to A.1**

*Replace A.1 with the following:*

**“A.1 General**

This sampling procedure shall apply for product type determination tests and in the event that there is a requirement for an assessment of product compliance.

Only those characteristics declared by the manufacturer shall be assessed by this procedure.

For independent testing, representatives of all parties shall have the opportunity to be present at the time of sampling.

The number of units required to determine compliance with the specification shall be sampled from a consignment of up to 20 m<sup>3</sup> or part thereof (see Table A.1).

NOTE Category I AAC masonry units manufactured to this European Standard which have been the subject of third party inspection of their assessment and verification of constancy of performance procedures are not normally subjected to independent testing of consignments after delivery.”.

**19 Modification to A.2.1**

*Delete the title of A.2.1 and update the numbering accordingly (not tagged).*

**20 Modification to A.2.5**

*Replace A.2.5 with the following:*

**“A.2.4 Number of masonry units required for testing**

The sample size for each test shall be in accordance with Table A.1.

Table A.1 — Number of units required for a test

Property	Clause Number	Test Method	Number of units <sup>a</sup>	
Dimensions	5.2	EN 772-16	6	
Flatness of bed faces	5.2.2.2	EN 772-20	3	
Plane parallelism of bed faces	5.2.2.3	EN 772-16	3	
Gross dry density	5.4	EN 772-13	6	
Net dry density	5.4	EN 772-13	6	
Compressive strength	5.5	EN 772-1	6	
Moisture Movement	5.8	EN 680	3	
Water absorption	5.10	EN 772-11	3	
Bond strength	5.12	EN 1052-3	Type I specimen	Type II specimen
		Procedure A	27	18
		Procedure B	18	12
Flexural bond strength	5.13	EN 1052-2	number of units needed for 5 wallettes	

<sup>a</sup> If appropriate, e.g. when the units are not affected by a test procedure the same units may be used for different tests.

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## 21 Modification to Annex ZA

Replace Annex ZA with the following new annex.  
SIST EN 771-4:2011/kFprA1:2014  
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