SLOVENSKI STANDARD
SIST EN 771-2:2000

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Specifikacije za zidake - 2. del: Apneno peščeni zidaki

Specification for masonry units - Part 2: Calcium silicate masonry units

Festlegungen für Mauersteine - Teil 2: Kalksandsteine

Spécifications pour éléments de maçonnerie - Partie 2: Eléments de maçonnerie en silico-calcaire

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Specification for masonry units - Part 2: Calcium silicate masonry units

Spécifications pour éléments de maçonnerie - Partie 2: Eléments de maçonnerie en silico-calcaire

Festlegungen für Mauersteine - Teil 2: Kalksandsteine

This European Standard was approved by CEN on 17 February 2000.

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This European Standard exists 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.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 125 "Masonry", the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by September 2000, and conflicting national standards shall be withdrawn at the latest by September 2000.

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.

The annexes A, B and C of this European Standard are normative, annex D is informative.

1 Scope

This European Standard specifies the characteristics and performance requirements of calcium silicate masonry units for which the main intended uses are inner walls, outer walls, cellars, foundations and chimneys, including those of an overall non-rectangular parallelepiped shape, specially shaped and accessory units.

This European Standard is intended to apply to all calcium silicate masonry units.

This European Standard does not cover units with more than 60 % volume of voids.

This European Standard does not cover products made from shale as a major raw material.

This European Standard does not cover storey height panels.

This European Standard does not cover units intended for use as a damp proof course.

This European Standard does not specify standard sizes for calcium silicate masonry units, nor standard work dimensions.

This European Standard does not cover units with an incorporated thermal insulating material placed on a face susceptible to be exposed to fire. It defines the performance related to strength, density, dimensional accuracy, geometry and freeze/thaw resistance, measured according to the corresponding test methods contained in separate European Standards.

It provides for the evaluation of conformity of the product to this European Standard. The marking requirement for products covered by this European Standard is also included.

2 Normative references

This European Standard incorporates by dated or undated references, 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.

prEN 772-1:1999 Methods of test for masonry units - Part 1 : Determination of compressive strength

EN 772-9 Methods of test for masonry units - Part 9 : Determination of volume and percentage of voids and net volume of calcium silicate units by sand filling

prEN 772-13 Methods of test for masonry units - Part 13 : Determination of net and gross dry density of masonry units (except for natural stone)

prEN 772-16 Methods of test for masonry units - Part 16 : Determination of dimensions

EN 772-18:2000 Methods of test for masonry units - Part 18 : Determination of resistance of calcium silicate masonry units

prEN 998-2 Specification for mortar for masonry - Part 2 : Masonry mortar

prEN 1745 Masonry and masonry products - Methods for determining declared and design thermal values

3 Definitions and symbols

For the purposes of this European Standard, the following definitions apply.

3.1 Unit related definition

3.1.1 masonry unit: A preformed component intended for use in masonry construction.

3.2 Material related definition

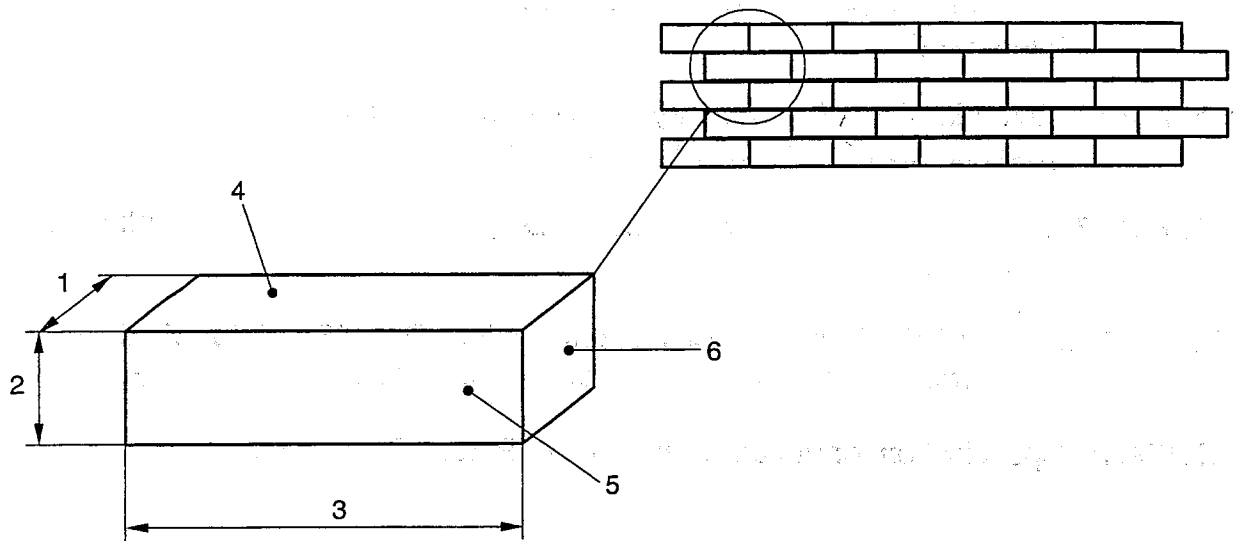
3.2.1 calcium silicate masonry unit: A masonry unit made predominantly from lime and siliceous materials, agglomerated and combined by the action of steam under pressure (see clause 4).

3.2.2 shale: A fine grained sedimentary rock, finely laminated and consisting of mainly quartz and clay minerals.

3.3 Size related definitions

3.3.1 dimensions and surfaces: The dimensions and surfaces of a calcium silicate masonry unit are defined by reference to figure 1. Figure 1 relates to the normal use of the masonry unit in a wall.

NOTE Calcium silicate masonry units may be provided with recesses, tongued and grooved jointing systems.



Key

1 Width
2 Height
3 Length
4 Bed
5 Face
6 Header

Note This relates to the normal use of the masonry in the wall.

Figure 1 - Dimensions and surfaces

3.3.2 co-ordinating size: The size of the co-ordinating space allocated to a masonry unit including allowances for joints and tolerances.

3.3.3 work size: The size of a masonry unit specified for its manufacture, to which the actual size conforms within permissible deviations.

3.3.4 actual size: The size of a masonry unit as measured.

3.4 Shape related definitions

3.4.1 regular shaped masonry unit: A masonry unit with an overall rectangular parallelepiped shape.

3.4.2 specially shaped masonry unit: A masonry unit which is not rectangular parallelepiped.

3.4.3 accessory unit: A masonry unit which is shaped to provide a particular function, e.g. to complete the geometry of the masonry. It may be obtained by cutting a large unit.

3.4.4 hole: A formed void which may or may not pass completely through a masonry unit.

3.4.5 perforation: A formed void which passes completely through a masonry unit.

3.4.6 cell: A formed void which does not pass through a masonry unit.

3.4.7 frog: A depression formed in one or both faces of a unit, the total volume of which does not exceed 20 % of the gross volume of the unit.

3.4.8 recess: A depression or indentation in one or more surfaces of a masonry unit (e.g. mortar pocket, rendering keyway, groove to provide a discontinuity in the mortar joint, grip hole).

3.4.9 shell: Peripheral material between the hole(s) and the outer surfaces of a masonry unit.

3.4.10 web: Solid material between the holes in a masonry unit.

3.5 Other definitions

3.5.1 declared value: A value that a manufacturer is confident of achieving, bearing in mind the precision of the test and the variability of the manufacturing process.

3.6 Symbols

f	=	declared compressive strength (N/mm^2)
f_i	=	individual compressive strength (N/mm^2)
f_b	=	normalised compressive strength (N/mm^2)
α	=	slanting angle accessory units
l	=	length (mm)
w	=	width (mm)
h	=	height (mm)

4 Materials and manufacture

Calcium silicate masonry units are produced from a mixture of lime and natural siliceous materials (sand, crushed or uncrushed siliceous gravel or rock or a mixture thereof), agglomerated and combined by the action of steam under pressure.

The use of pigments in order to produce coloured units is permitted.
Other ingredients can be added for particular improvements of characteristics of the product.

Calcium silicate masonry units produced with a majority of other siliceous materials are permitted if these materials have no deleterious effect on the properties of the product (see 8.3.2). The presence of such a material shall be declared.

5 Requirements for calcium silicate masonry units

5.1 General

The requirements and properties specified in this European Standard shall be defined in terms of the test methods and other procedures referred to in this European Standard. The method of sampling and the number of test specimens required is given in table A.1.

The conformity criteria given in the following sub-clauses relate to initial type tests (see 8.2) and consignment testing (see Annex A). For production evaluation the manufacturer shall define the conformity criteria in the factory production control documentation (see 8.3).

It should be noted that the test methods are not always applicable to specially shaped and accessory units as defined in 3.4.2. and 3.4.3.

5.2 Dimensions and tolerances

5.2.1 Dimensions

The dimensions of a calcium silicate masonry unit shall be declared in mm for length, width and height, in that order. They shall be given in terms of work size and in addition the co-ordinating size may be given.

When a specified number of calcium silicate masonry units is sampled from a consignment in accordance with Annex A and tested in accordance with prEN 772-16 the tolerances shall be as indicated in 5.2.2. The determination of length, width and height shall be by one measurement taken approximately in the centre of each specimen (7.1 of prEN 772-16, method b)). Except when there is a need to exclude irregular surfaces (tongues and grooves, grip holes, etc.) in providing the dimension, method a) shall be used.

Dimensions and tolerances for accessory units shall be as given in Annex C.

5.2.2 Tolerances

The actual deviations for the mean length, width and height and the actual deviation for individual length, width and height shall be not greater than the permissible deviations as specified in table 1.

Actual deviations for the mean are differences between declared work sizes and the mean measured values. Actual deviations for individual values are differences between the mean measured values and the measured individual values.

These dimensional tolerances shall not apply to the direction perpendicular to the face of fracturing in a one-side sliced unit.

Table 1 - Dimensional tolerances for calcium silicate masonry units

Dimensions	**Calcium silicate masonry units for use with joints made of:**	
	general purpose mortar and light-weight mortar	**thin layer mortar**
Mean height of sample	work size height ± 2 mm	work size height ± 1 mm
Mean length of sample	work size length ± 2 mm	work size length ± 2 mm
Mean width of sample	work size width ±2 mm	work size width ± 2 mm
Individual height	mean height of sample ± 2 mm	mean height of sample ± 1 mm
Individual length	mean length of sample± 2 mm	mean length of sample ± 2 mm
Individual width	mean width of sample ± 2 mm	mean width of sample ± 2 mm
NOTE For definition of general purpose mortar, light-weight mortar and thin layer mortar see 3.3 of prEN 998-2.		

5.3 Geometry, shape and features

The configuration of perforations, cells, shells and webs shall be declared.