SLOVENSKI STANDARD
SIST EN 772-9:1999

01-januar-1999

Metode preskušanja zidakov - 9. del: Ugotavljanje lukenj in neto prostornine kot tudi odstotnega deleža lukenj v apneno peščenih zidakih, polnjenih s peskom

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

Prüfverfahren für Mauersteine - Teil 9: Bestimmung des Loch- und Nettovolumens sowie des prozentualen Lochanteils von Kalksandsteinen mittels Sandfüllung

Méthodes d'essai des éléments de maçonnerie - Partie 9: Détermination du volume et du pourcentage de vides et du volume net absolu des éléments de maçonnerie en silico-calcaire par remplissage de sable

Ta slovenski standard je istoveten z: **EN 772-9:1998**

ICS:

91.100.15	Mineralni materiali in izdelki	Mineral materials and products

SIST EN 772-9:1999 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 772-9

August 1998

ICS 91.100.20

Descriptors: construction, masonry, units, calcium silicate, tests, determination, volume of voids, percentage of voids, sand filling

English version

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

Méthodes d'essai des éléments de maçonnerie - Partie 9: Détermination du volume et du pourcentage de vides et du volume net absolu des éléments de maçonnerie en silico-calcaire par remplissage de sable

Prüfverfahren für Mauersteine - Teil 9: Bestimmung des Loch- und Nettovolumens sowie des prozentualen Lochanteils von Kalksandsteinen mittels Sandfüllung

This European Standard was approved by CEN on 2 July 1998.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

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

Ref. No. EN 772-9:1998 E

Contents **Page**

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 February 1999, 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.

1 Scope

This European Standard specifies a method of determining the volume and percentage of voids and net volume of calcium silicate masonry units containing cells, frogs and holes.

2 Normative references

This European Standard incorporates by dated and undated reference, 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 reference the latest edition of the publication referred to applies.

pr EN 771-2 Specification for masonry units - Part 2: Calcium silicate masonry units

pr EN 772-16 Methods of test for masonry units - Part 16: Determination of size and dimensions

3 Principle

The principle of this test is to measure the volume of voids in a masonry unit by measuring the volume of sand required to fill them.

4 Symbols

$V_{n,u}$ is the net volume of each unit , (10^4 mm^3)

$V_{s,u}$ is the volume of voids , (10^4 mm^3)

$V_{g,u}$ is the gross volume of each unit , (10^4 mm^3)

5 Materials

Dry graded sand with a grain size above 0,5 mm and passing a 1 mm test sieve (**6.4**).

6 Apparatus

6.1 A **thin sheet of foam rubber** or other resilient material.

6.2 A **rigid plate** slightly larger than the unit.

6.3 A **glass measuring cylinder** graduated in ml.

6.4 Two **test sieves**, one with 0,5 mm apertures and one with 1 mm apertures.

7 Preparation of specimens

7.1 Sampling

The method of sampling shall be in accordance with **pr EN 771-2**. The minimum number of specimens shall be six, but a larger minimum number may be specified in the product specification, in which case that larger number shall be used.

7.2 Surface treatment

Remove any superfluous material adhering to the unit as a result of the manufacturing process before commencing the test.

8 Test procedure

8.1 Volume of voids

Place the air-dry unit on the thin sheet of foam rubber (**6.1**) or other resilient material with the open end of voids uppermost.

When the unit has voids or recesses in the ends that need to be measured,close the ends with the rigid plate (**6.2**).

8.2 Sand filling procedure

Fill the glass measuring cylinder (**6.3**) accurately with the dry sand and record the volume. Fill the voids with the sand by pouring from the cylinder, refilling it if required. Keep the cylinder lip as close as possible to the top of the void, pour steadily and then strike off level.
Return to the cylinder any sand struck off and note the total volume of sand ($V_{s,u}$) used to the nearest 10^4 mm^3.

9 Calculation and expression of results

Calculate the gross volume of the unit ($V_{g,u}$)by multiplying the length (l_u) by the height (h_u) and the width (w_u) of the unit measured in accordance with **pr EN 772-16**.

$$V_{g,u} = l_u \times w_u \times h_u \qquad ...(1)$$

Calculate the net volume ($V_{n,u}$) of each unit to the nearest 10^4 mm^3, if required.

$$V_{n,u} = V_{g,u} - V_{s,u} \qquad ...(2)$$

Calculate the % of voids to the nearest 1% as

$$\frac{V_{s,u}}{V_{g,u}} \times 100 \qquad ...(3)$$

10 Evaluation of results

Calculate the mean value of the percentage of voids to the nearest 1%.

11 Test report

The test report shall contain the following information:

a) the number, title and date of issue of this European Standard,

b) a description of the masonry unit to the relevant standard, **pr EN 771-2**,

c) the method of sampling and by which organization,

d) the date of delivery of the specimens,

e) the date of testing,

f) the number of specimens in sample,

g) the volume of voids ($V_{s,u}$) in each unit to the nearest 10^4 mm^3 ,

h) the mean volume of voids to the nearest 10^4 mm^3

i) the net volume of each unit ($V_{n,u}$) to the nearest 10^4 mm^3, if required,

j) the individual and mean values of percentage of voids to the nearest 1%.

k) remarks, if any.