



SLOVENSKI STANDARD

SIST EN 1467:2004

01-julij-2004

Naravni kamen – Surovi bloki – Zahteve

Natural stone - Rough blocks - Requirements

Naturstein - Rohblöcke - Anforderungen

Pierres naturelles - Blocs bruts - Spécifications

Ta slovenski standard je istoveten z: **EN 1467:2003**

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ICS:

91.100.15 Mineralni materiali in izdelki Mineral materials and products

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1467

December 2003

ICS 73.020; 91.100.15

English version

Natural stone - Rough blocks - Requirements

Pierres naturelles - Blocs bruts - Spécifications

Naturstein - Rohblöcke - Anforderungen

This European Standard was approved by CEN on 1 September 2003.

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 Management Centre 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 Management Centre 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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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EN 1467:2003 (E)

Contents

page

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions.....	4
4 Requirements	6
4.1 Requirements for geometric characteristics	6
4.1.1 Measurement criteria.....	6
4.1.2 Requirements on shape	6
4.1.3 Requirements for volume.....	7
4.1.4 Requirements for mass.....	7
4.2 Requirements of natural stone for rough blocks	7
4.2.1 Denomination	7
4.2.2 Visual appearance	7
4.2.3 Apparent density and open porosity	7
4.2.4 Flexural strength.....	7
4.2.5 Other requirements.....	7
5 Marking	8
6 Evaluation of conformity and factory production control	8
6.1 Evaluation for conformity	8
6.2 Initial type testing	8
6.3 Factory production control.....	9
Annex A (normative) Sampling.....	11
Bibliography	15

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(standards.iteh.ai)

SIST EN 1467:2004

<https://standards.iteh.ai/catalog/standards/sist/6d848ed2-cc8d-41ea-9521-136ee8648d81/sist-en-1467-2004>

Foreword

This document EN 1467:2003 has been prepared by Technical Committee CEN /TC 246, "Natural stones", the secretariat of which is held by UNI.

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 June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.

This European Standard is one of a series of standards for requirements of natural stone products which includes the following:

EN 1467, *Natural stone products - Rough blocks - Requirements.*

EN 1468, *Natural stone products - Rough slabs - Requirements.*

prEN 1469:2002, *Natural stone products- Slabs for claddings - Requirements.*

prEN 12057:2002, *Natural stone products - Modular tiles - Requirements.*

prEN 12058:2002, *Natural stone products - Slabs for floors and stairs - Requirements.*

prEN 12059:2003, *Natural stone products - Dimensional stone work- Requirements.*

Other standards on natural stone are produced by

CEN/TC 178

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EN 1341, *Slabs of natural stone for external paving - Requirements and test methods*

EN 1342, *Setts of natural stone for external paving - Requirements and test methods*

EN 1343, *Kerbs of natural stone for external paving - Requirements and test methods*

CEN/TC 128

EN 12326-2, *Slate and stone products for discontinuous roofing and cladding - Part 2: Methods of test*

prEN 12326-1:2003, *Slate and stone products for discontinuous roofing and cladding - Part 1: Product specification*

CEN/TC 125

EN 771-6, *Specification for masonry units - Part 6: Natural stone masonry units*

Other standards are relevant to stone aggregates for concrete, roads, railways and armourstone (under study within CEN/TC 154)

Annex A is normative.

This document includes a Bibliography.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

EN 1467:2003 (E)**1 Scope**

This European Standard specifies requirements for rough blocks of natural stone from which products for use in building or commemorative stones and other similar applications are made.

It does not cover artificially agglomerated stony material and does not cover installation.

2 Normative references

This European Standard incorporates by dated or 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 references the latest edition of the publication referred to applies (including amendments).

EN 1936, *Natural stone test methods - Determination of real density and apparent density, and of total and open porosity.*

EN 12372, *Natural stone test methods - Determination of flexural strength under concentrated load.*

EN 12407, *Natural stone test methods - Petrographic examination.*

EN 12440, *Natural stone - Denomination criteria.*

EN 12670, *Natural stone - Terminology.*

EN 13161, *Natural stone test methods - Determination of flexural strength under constant moment.*

EN 13373, *Natural stone test methods - Determination of geometric characteristics on units.*

NOTE Besides the European Standards for test methods mentioned in this clause there exist further standards which can be used for scientific examinations, but which are not relevant for the application in practice according to this standard.

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 12670 and the following apply.

3.1**rough block**

basis of the usable stone consisting of rocks obtained directly from quarries or erratics, with no processing whatsoever excepted extraction and shaping by cutting or splitting

3.2**shapeless rough block**

rough block without regular shape and size

3.3**squared rough block**

rough block which corresponds approximately to a regular parallelepiped

NOTE Normally the ratio obtainable by dividing the mass of the squared rough block by the apparent density should be bigger than 80% of the gross size; in case such a ratio is equal or less than 80% then the block is considered a shapeless rough block.

3.4**rough block of specific size**

squared rough block with certain given dimensions

3.5**dimensions of a rough block**

the length l , width b and height h are the dimensions of a squared rough block. They are given in the stated sequence in meters to two decimals places

3.5.1**length l**

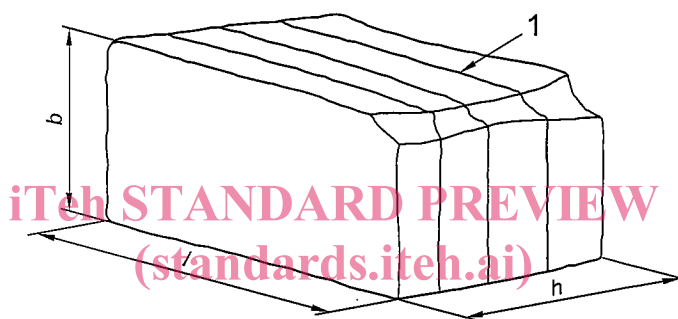
corresponds to the greater side in a natural layer where appropriate

3.5.2**width b**

is the smaller side in the natural layer or at right angles to length

3.5.3**height h**

is the side at right angles to the natural layer (see Figure 1) or to the plane containing length l and width b



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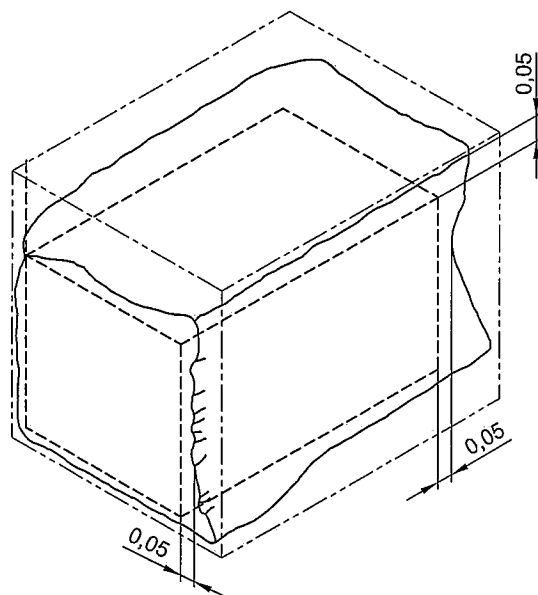
1 Natural layer

Figure 1 — Dimensions of a rough block

3.6**gross size of the rough block**

is defined by the lengths of the edges of the smallest parallelepiped circumscribed to a rough block (see Figure 2)

EN 1467:2003 (E)

**Key**

gross size - - - - -

commercial size - - - - -

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Figure 2 – Gross sizes, commercial sizes of a rough block

SIST EN 1467:2004

3.7**net size of a rough block**

is determined in the following manner: Establish the greatest inscribed parallelepiped which shall not contain any sides without right angles nor contain drill holes and other holes. The resulting figure is the net size

3.8**commercial size of a rough block**

is obtained by reducing each net dimension by 0,05 m (see Figure 2)

4 Requirements**4.1 Requirements for geometric characteristics****4.1.1 Measurement criteria**

All measurements shall be carried out in accordance with EN 13373, and indicated in metres to two decimals places.

4.1.2 Requirements on shape

The six sides of squared rough block shall be approximately flat, right-angled and parallel, and correspond to the shape of a parallelepiped. Local deviations from the parallelepiped shape are permitted.

Shapeless rough blocks for commercial purposes are only measured by mass, see 4.1.4; gross size shall be provided upon request.

Rough blocks of specific size shall have dimensions not lower than the minimum values and not greater than the maximum values agreed between the purchaser and supplier.

4.1.3 Requirements for volume

The volume of a rough block shall be stated in cubic metres to three decimal places. The volume may be calculated by dividing the mass of the block by the apparent density.

4.1.4 Requirements for mass

The mass of a rough block shall be stated in tonnes with three decimals. The mass shall be obtained by weighing; for squared blocks approximate mass may be obtained by multiplying the volume by the apparent density.

4.2 Requirements of natural stone for rough blocks

The following characteristics shall be declared where requested by this standard or with reference to use conditions.

The declared values shall be representative of the current production, however due to natural variations of the stone materials, deviations from the declared values may occur and the expected deviation shall be indicated by the manufacturer.

4.2.1 Denomination

The denomination shall always be declared in accordance with EN 12440 (it means traditional name, petrological family, typical colour and place of origin).

The petrological family shall be determined in accordance with EN 12407.

4.2.2 Visual appearance

This characteristic shall be declared upon request.

The colour, veining, texture, etc. of the stone shall be identified visually for example by a polished reference sample. The reference sample shall be provided by the supplier.

Any visual variation, for example, inclusions and veins, are permissible provided that they are characteristic of the relevant type of natural stone and provided that they do not adversely affect the performances of the stone products.

4.2.3 Apparent density and open porosity

This characteristic shall always be declared.

The apparent density and open porosity shall be determined using the test method in EN 1936 and mean value, lower expected value and standard deviation shall be declared.

4.2.4 Flexural strength

This characteristic shall always be declared.

The flexural strength shall be determined using the test method in EN 12372 or EN 13161 and mean value, lower expected value and standard deviation shall be declared.

4.2.5 Other requirements

Where required, for example when the derived product is to be used for a specific purpose, additional tests may be requested in accordance with relevant product standard (see prEN 1469, prEN 12057, prEN 12058, etc.).