SLOVENSKI STANDARD
oSIST prEN 1467:2021

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Naravni kamen - Surovi bloki - Zahteve

Natural stone - Rough blocks - Requirements

Natursteine - Rohblöcke - Anforderungen

Pierres naturelles - Blocs bruts - Exigences

Ta slovenski standard je istoveten z: **prEN 1467**

ICS:

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English Version

Natural stone - Rough blocks - Requirements

Pierres naturelles - Blocs bruts - Exigences

Natursteine - Rohblöcke - Anforderungen

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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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword

This document (prEN 1467:2021) has been prepared by Technical Committee CEN/TC 246 “Natural stones”, the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 1467:2012.

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

- EN 1467, *Natural stone — Rough blocks — Requirements*
- EN 1468, *Natural stone — Rough slabs — Requirements*
- EN 1469, *Natural stone products — Slabs for cladding — Requirements*
- EN 12057, *Natural stone products — Modular tiles — Requirements*
- EN 12058, *Natural stone products — Slabs for floors and stairs — Requirements*
- EN 12059+A1, *Natural stone products — Dimensional stone work — Requirements*

Other standards on natural stone are produced by:

a) CEN/TC 178

1) EN 1341, *Slabs of natural stone for external paving — Requirements and test methods*
2) EN 1342, *Setts of natural stone for external paving — Requirements and test methods*
3) EN 1343, *Kerbs of natural stone for external paving — Requirements and test methods*

b) CEN/TC 128

1) EN 12326-1, *Slate and stone products for discontinuous roofing and cladding — Part 1: Product specification*
2) EN 12326-2, *Slate and stone products for discontinuous roofing and cladding — Part 2: Methods of test for slate and carbonate slate*

c) CEN/TC 125

1) 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.

The main technical changes to EN 1467:2012 are:

- the addition of the word “usually” and the addition of Note 1 to definition 3.1;
- the transformation of Annex A from an *informative* to a normative Annex.

1 Scope

This document 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 nor installation.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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*

3 Terms and definitions

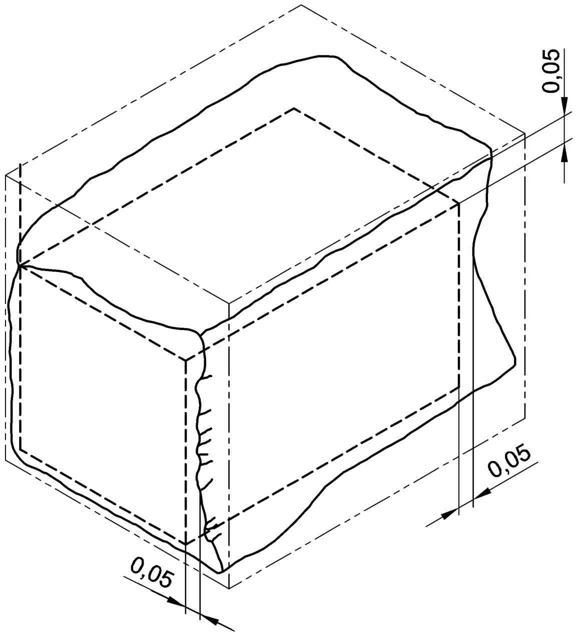
For the purposes of this document, the following terms and definitions given in EN 12670 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at https://www.iso.org/obp
- IEC Electropedia: available at http://www.electropedia.org/

3.1
commercial size of a rough block
size which is usually obtained by reducing each net dimension by 0,05 m (see Figure 1)

Dimensions in millimetres



Key

-.-.-.-	gross size
– – –	commercial size

Figure 1 — Gross sizes, commercial sizes of a rough block

Note 1 to entry: For shapeless rough blocks for commercial purposes, see also 4.1.2 and 4.1.4.

3.2
dimensions of a rough block
length *l*, width *b* and height *h* are the dimensions of a squared rough block

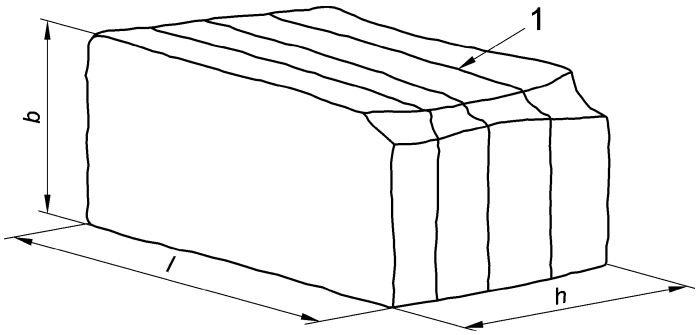
Note 1 to entry: They are given in the stated sequence in meters to two decimals places.

3.2.1
length
l
greater side in a natural layer where appropriate

3.2.2
width
b
smaller side in the natural layer or at right angles to length

3.2.3
height
h
side at right angles to the natural layer (see Figure 2) or to the plane containing length *l* and width *b*

Dimensions in millimetres



Key

1 natural layer

Figure 2 — Dimensions of a rough block

3.3
gross size of the rough block
size defined by the lengths of the edges of the smallest cuboid circumscribed to a rough block (see Figure 1)

3.4
net size of a rough block
size which is determined by establishing the greatest inscribed cuboid block which does not contain any sides without right angles nor contain drill holes and other holes; the resulting figure is the net size

3.5
rough block
basis of the usable stone consisting of rocks obtained directly from quarries or erratics with no processing whatsoever except extraction and shaping by cutting or splitting

3.6
rough block of specific size
squared rough block with certain given dimensions

3.7
shapeless rough block
rough block without regular shape and size

3.8
squared rough block
rough block which corresponds approximately to a regular cuboid

Note 1 to entry: 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. If such a ratio is equal to or less than 80 %, the block is considered a shapeless rough block.

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 cuboid. Local deviations from the cuboid 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 decimals 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 the approximate mass may be obtained by multiplying the volume by the apparent density.

4.2 Requirements of natural stone for rough blocks

4.2.1 General

The following characteristics shall be declared where requested by this European 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. Expected deviations shall be indicated by the manufacturer.

In case of layered stone: If a rough block contains different types of stones (see 4.2.2) all characteristics shall be declared.

4.2.2 Denomination

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

NOTE The place of origin can be given by GPS coordinates.

The petrologic definition shall be determined in accordance with EN 12407.

4.2.3 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 variations, 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.

4.2.4 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 the mean value, lower expected value and standard deviation shall be declared.

4.2.5 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 the mean value, lower expected value and standard deviation shall be declared.

4.2.6 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 EN 1469 [1], EN 12057 [2], EN 12058 [3], etc.).

5 Marking

As a minimum of identification, each consignment shall carry the following indications:

- the denomination of the natural stone, in accordance with EN 12440;
- the mass and the volume of each block;
- the dimensions (including at least gross and commercial sizes) of each block;
- the description of the shape (cuboid or shapeless).

The direction of the natural layer of each block shall be clearly marked where appropriate.

Each block shall be clearly identified by a recorded identification system.

6 Evaluation of conformity and factory production control

6.1 Evaluation of conformity

The compliance with the requirements of this document and with the stated values or classes of reaction to fire shall be demonstrated by carrying out type testing. Additionally, the manufacturer shall exercise a permanent factory production control (FPC) and keep record of the results for at least 2 years.

The declared values shall be representative of the current production, for example the lowest expected value or the minimum test value in normal production.

For sampling, see Annex A.

When the rough blocks manufacturer declares conformity with some characteristics included in a product standard (see EN 1469 [1], EN 12057 [2], EN 12058 [3], etc.), the evaluation of conformity of the block shall include type testing and factory production control as described in the appropriate product standard.