SLOVENSKI STANDARD
oSIST prEN 1468:2021

01-julij-2021

Naravni kamen - Surove plošče - Zahteve

Natural stone - Rough slabs - Requirements

Naturstein - Rohplatten - Anforderungen

Pierres naturelles - Tranches brutes - Exigences

Ta slovenski standard je istoveten z: **prEN 1468**

ICS:

91.100.15	Mineralni materiali in izdelki	Mineral materials and products

oSIST prEN 1468:2021 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 1468

April 2021

ICS 73.020; 91.100.15

Will supersede EN 1468:2012

English Version

Natural stone - Rough slabs - Requirements

Pierres naturelles - Tranches brutes - Exigences

Naturstein - Rohplatten - Anforderungen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 246.

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.

This draft European Standard 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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

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 1468:2021) 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 1468:2012.

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 1468:2012 are:

— the transformation of Annex A into a normative Annex;

— the addition of Annex B (determination of commercial dimensions for nonrectangular rough slabs).

1 Scope

This document specifies requirements for rough slabs of natural stone from which products for use in buildings 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 12670:2019, *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 12670:2019 and the following apply.

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

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

3.1
commercial size of a rough slab
size obtained by reducing net length and net width by 0,03 m

Note 1 to entry: For the determination of commercial dimensions, see Annex B.

3.2
dimensions of a rough slab
length, width (height) and thickness of a rough slab

Note 1 to entry: Dimensions are given in metres to two decimals places for length and width, and in millimetres for thickness.

3.3
gross size of a rough slab
size corresponding to the minimum circumscribed rectangle

3.4
net size of a rough slab
size corresponding to the greatest inscribed rectangle

3.5
rough slab
flat surface semi-finished product with unfinished edges obtained by sawing or splitting from a 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 for thickness

The thickness shall not deviate from the nominal thickness by more than the tolerances given in Table 1.

Table 1 — Tolerances of the nominal thickness

Nominal thickness mm	Tolerance
up to 15	±1,5 mm
more than 15 up to and including 30	±10 %
more than 30 up to and including 80	±3 mm
more than 80	±5 mm

Stricter tolerances may be declared by the manufacturer.

For natural stone cleft/riven faces, the tolerances on thickness shall be declared by the manufacturer.

4.1.3 Requirements for flatness

The deviation of the surface from flatness shall not exceed 0,2 % of the slab length and shall not exceed 3 mm. For split rough slabs, the tolerance on flatness shall be declared by the manufacturer.

Stricter tolerances may also be declared by the manufacturer.

4.1.4 Requirements for surface finish

4.1.4.1 General

Surface finishes shall be carried out at least to the edges of the commercial size of rough slabs.

The surface finishing of some types of stones may typically involve the use of patching, fillers or other similar products for natural holes, faults or cracks, and this is to be considered as part of the normal processing.

In such cases, the type of treatment, as well as the type and nature of additional materials, shall be declared.

The surface profile obtained by splitting shall be within declared tolerances.

4.1.4.2 Requirements for surfaces obtained by sawing

Grooves caused by sawing operations shall not have a depth greater than 2 mm. If the rough slab is to be polished, the grooves' depth shall not be greater than 1 mm.

Deviation from flatness shall be in accordance with 4.1.3.

4.1.4.3 Requirements for surfaces after surface finishing

Surfaces shall have a regular appearance as a function of the finishing process, and shall be worked to meet the specified finish (e.g. making reference to samples, see 4.2.2) on all exposed surfaces.

NOTE 1 Surfaces obtained by means of hammer type tools are, for example:

- bush hammered finish (see EN 12670:2019, Definition 3.3.12);
- trimmed surfaces: finish obtained by using a pointed chisel and mallet or a grooving machine;
- striated surfaces: finish obtained by using a claw chisel (percussion tool for roughening a surface, with the cutting end covered by several teeth of various sizes) or a ruling machine.

NOTE 2 Surfaces obtained by other finishing operations are, for example:

- flamed finish (see EN 12670:2019, Definition 3.3.39);
- sand blasted finish (see EN 12670:2019, Definition 3.3.70);
- water jet streamed finish: a matt textured surface finish, accomplished by exposing the surface to a steady jet of water under pressure;
- machine tooled finish (see EN 12670:2019, Definition 3.3.85);
- riven cut finish: rugged surface produced by splitting stone with a guillotine or chisel.

4.2 Requirements of natural stones for rough slabs

4.2.1 General

The following characteristics shall be declared where requested by this document, 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.

Rough slabs of natural stones may be back reinforced and glued by artificial resins.

The possibility that stone processing is likely to change the characteristics of the raw material (e.g. in consequence of strong bush hammering of the surface, of flaming or heating, of back reinforcing the slabs, or because of the use of artificial patching, fillers or other similar products for natural holes, faults, cracks and similar) shall be considered when determining the characteristics requested by this document.

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 petrographic 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 slabs.

Visible cracks and fissures shall be marked on rough slabs.

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 results expressed accordingly.

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, packaging

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 quantities of the rough slabs;
- the dimensions (including at least gross and commercial sizes) of the rough slabs;
- the description of the shape (rectangular or shapeless).

The slabs shall be clean before packaging.

The supplier shall ensure safety against contamination caused by packaging materials, in wet or dry conditions. Packaging and tapes which are likely to stain shall not be used. The sensitive polished surfaces shall be protected by an appropriate means (for example plastic foil). Products with caustic properties shall not be used.

6 Evaluation of conformity and factory production control

6.1 Evaluation for conformity

The compliance with the requirements of this document and with the stated values 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 slabs 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 rough slab shall include type testing and factory production control as described in the appropriate product standard.

6.2 Type testing

Type testing of a natural stone rough slab, as given in Table 2, shall be carried out:

- on the first application of this document or at the beginning of production of a new type of stone;
- when significant variations occur in the material that are determined visually or by significant changes in FPC results.

Tests previously performed in accordance with the provisions of this document (same type of stone, same characteristic measured with the same test method, same sampling procedure and system of attestation of conformity) may be taken into account.

The declaration of the values may be supported by a “test report” supplied with the block, provided that tests have been performed according to the requirements and test methods of this document.

The results of the selected tests shall be expressed as referred to in 4.2.

Table 2 — List of properties of rough slabs for type testing

Reference to subclauses for applicability [a]	Properties/Characteristics	Test method in accordance with
4.2.1	Denomination	EN 12440 and EN 12407
4.2.2	Visual appearance	Visual
4.2.3	Apparent density and open porosity	EN 1936
4.2.4	Flexural strength	EN 12372 or EN 13161

[a] Reference shall be made to these subclauses in order to decide which tests need to be declared.