



SLOVENSKI STANDARD
SIST EN 1468:2004

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Naravni kamen – Surove plošče – Zahteve

Natural stone - Rough slabs - Requirements

Naturstein - Rohplatten - Anforderungen

Pierre naturelle - Dalles brutes - Spécifications

Ta slovenski standard je istoveten z: EN 1468:2003

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EUROPEAN STANDARD
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Natural stone - Rough slabs - Requirements

Pierre naturelle - Dalles brutes - Spécifications

Naturstein - Rohplatten - Anforderungen

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

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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 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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Foreword

This document EN 1468:2003 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of an identical text or by endorsement, at the latest by June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.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 <https://standards.iteh.ai/catalog/standards/sist/fl ddbd77-bd14-4fc3-9057-ed5557bb5d1e/sist-en-1468-2004>

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.

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1 Scope

This European Standard 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 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 12670:2001, *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 slab

flat surface semi-finished product with unfinished edges obtained by sawing or splitting from a rough block

3.2

dimensions of a rough slab

the length, width (height) and thickness are the dimensions of a rough slab. They are given in metres to two decimal places for length and width and in millimetres for thickness

3.3

gross size of a rough slab

corresponds to the minimum circumscribed rectangle

3.4

net size of a rough slab

corresponds to the greatest inscribed rectangle

3.5**commercial size of a rough slab**

is obtained by reducing net length and net width by 0,03 m

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 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

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Stricter tolerances may be declared by the manufacturer.

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

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Deviation from flatness shall be in accordance to 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 grinding are, for example

- rough ground surfaces obtained, e. g. by means of a grinding disk of grain size F 60;
- medium ground surfaces obtained, e. g. by means of a grinding disk of grain size F 120;
- fine ground surfaces obtained, e. g. by means of a grinding disk of grain size F 220;
- matt finished surfaces obtained, e. g. by means of a polishing disk with grain size F 400;
- highly polished surfaces obtained, e. g. by means of a polishing disk or felt.

NOTE 2 Surfaces obtained by means of hammer type tools are, for example:

- bush hammered surfaces (see EN 12670:2001, 3.3.8) ¹
- trimmed surfaces: finish obtained by using 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 size) or a ruling machine

NOTE 3 Surfaces obtained by other finishing operations are, for example:

- flamed finish (see EN 12670:2001, 3.3.22) ²
- sand blasted finish (see EN 12670:2001, 3.3.46) ³
- 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 12670:2001, 3.3.54) ⁴
- riven cut finish: rugged surface produced by splitting stone with a guillotine or chisel

¹ finish obtained by using a bush hammer (percussion tool for roughening a surface, with a square head and with few pyramidal percussion teeth or points) or a bush hammering machine (machine consisting of feed rolls and a overhanging beam, supporting a pneumatic bush hammer).

² surface texture obtained by thermal treatment of the stone using a high temperature flame.

³ a matt finishing resulting from the impact of the sand or other abrasive grains expelled by a sand jet.

⁴ this term has two different meanings:

* finish resulting from the mechanical surface treatment with tools;

** dressed finish clearly showing tool marks.

4.2 Requirements of natural stones for rough slabs

4.2.1 General

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.

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

Whenever stone processing is likely to change the characteristics of the raw material then this has to be considered when determining the characteristics requested by this standard. (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).

4.2.2 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.

4.2.3 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 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 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 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 prEN 1469, prEN 12057, prEN 12058, etc.).