SLOVENSKI STANDARD
SIST EN 1015-2:1999

01-januar-1999

Metode preskušanja zidarskih malt - 2. del: Vzorčenje malt in priprava malt za preskušanje

Methods of test for mortar for masonry - Part 2: Bulk sampling of mortars and preparation of test mortars

Prüfverfahren für Mörtel für Mauerwerk - Teil 2: Probenahme von Mörteln und Herstellung von Prüfmörteln

Méthodes d'essai des mortiers pour maçonnerie - Partie 2: Echantillonnage global des mortiers et préparation des mortiers d'essai

Ta slovenski standard je istoveten z: **EN 1015-2:1998**

ICS:

91.100.10	Cement. Mavec. Apno. Malta	Cement. Gypsum. Lime. Mortar

SIST EN 1015-2:1999 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1015-2

October 1998

ICS 91.100.10

Descriptors: masonry work, mortars: materials, sampling, preparation, batching, packing, certification

English version

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This European Standard was approved by CEN on 4 September 1998.

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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 Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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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of an identical text or by endorsement, at the latest by April 1999, and conflicting national standards shall be withdrawn at the latest by September 2000.

This European standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association and includes the performance requirements referred to in the Eurocode for masonry Structures.

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 methods for taking a bulk sample of fresh mortar, and the preparation of a bulk test sample from this. It also specifies a procedure for producing test mortars from dry constituents and water.

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.

EN 196-1	Method of testing cement - Part 1: Determination of strength
prEN 998-1	Specification for mortar for masonry - Part 1: Rendering and plastering mortar with inorganic binding agents
prEN 998-2	Specification for mortar for masonry - Part 2 : Masonry mortar
prEN 1015-3	Methods of test for mortar for masonry - Part 3 : Determination of consistence of fresh mortar (by flow table)

3 Definitions

For the purposes of this standard the following definitions apply.

3.1 lot: Quantity of mortar produced under conditions presumed uniform. After specified tests this quantity is regarded as a whole "complying" or "not complying" with the specifications.

3.2 increment: Quantity of mortar taken in a single operation of the sampling equipment used.

3.3 spot sample: A sample taken at the same time and from one and the same place. It can be obtained by taking increments one after another.

3.4 bulk sample: The aggregation of sample increments meant to represent the lot sampled.

3.5 bulk test sample: The reduced sample taken from the bulk sample which is used for the testing purposes of this standard.

4 Minimum bulk test sample size

The minimum bulk test sample size shall be 10 kg.

5 Preparation of the bulk test sample and individual test samples

5.1 Apparatus

5.1.1 A metal or rigid plastics receptacle or scoop[1] of not less than 1 l capacity.

5.1.2 Clean, dry containers with close-fitting lids.

5.1.3 A trowel or palette knife

5.1.4 A flat shovel

5.2 Procedure

5.2.1 General

Obtain the bulk sample by taking uniformly distributed increments (preferably from material in motion, provided this can be carried out in safety), and mix thoroughly.

Reduce the bulk sample in accordance with 5.3 to obtain the bulk test sample.

5.2.2 Sampling from batch mixers

Sample the mortar at the discharge point of a batch from the mixer. Take not less than three increments spaced evenly through the batch at the discharge point of the mixer. Take increments by passing the receptacle across the stream of mortar in such a manner as to collect a representative sample of mortar.

5.2.3 Sampling from conveyors, pipelines etc.

Sample the mortar at the discharge point of the conveyor or pipeline. Pass the receptacle across the stream of mortar, if possible so as to cross the whole of the stream, until it is filled. If it is not possible to catch the whole stream at once, pass the receptacle through the stream at a uniform rate so that consecutive increments are taken from different parts of the stream. Where it is not possible to sample at the discharge point of conveyor, stop the conveyor and use the scoop (5.1.1) to take increments from the full width and thickness of the stream of mortar on the conveyor.

Take not less than three increments at regularly spaced time intervals during the passage of the whole of the quantity of the mortar that is being sampled.

5.2.4 Sampling from large hoppers, bins, or heaps being moved

Sample the mortar when hoppers etc. are being filled or emptied or when heaps are being moved, in accordance with 5.2.3.

5.2.5 Sampling from small hoppers, bins, static heaps, or bags

Sample the mortar by means of the scoop. Take increments from material not less than 100 mm below the surface in at least three different places, distributed in a regular manner throughout the mass, so as to ensure, when mixed, a thoroughly representative combined sample.

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[1] According to the method being used (see 5.2.3).

5.2.6 Bulk transport vehicles

Sample the contents of bulk transport containers either during filling or emptying in accordance with 5.2.3 or, when this is not practical, by taking increments in accordance with 5.2.5.

5.3 Reduction of the bulk sample

Immediately after collecting, using a flat shovel (5.1.4) combine and thoroughly mix the increments, taken in accordance with any of the methods described, on a flat, impervious rigid surface. Complete the mixing within 5 min of placing the increments upon the surface. Reduce the bulk sample to produce a bulk test sample of not less than 10 kg by taking sufficient scoopfuls from random positions throughout the mixed material. Place the bulk test sample in one or more containers (5.1.2) with close-fitting lids. The sampling operation shall not take longer than 3 min.

5.4 Packing and certificate of sampling

Each bulk test sample to be despatched to a laboratory in the containers shall be suitably labelled so that its origin can be identified at the laboratory. The bulk test sample shall be accompanied by a certificate from the person responsible for taking the samples stating that sampling was carried out in accordance with the requirements of this European standard.

This certificate shall include the following information:

a) the name and address of the body responsible for sampling;

b) the name and address of the customer;

c) the place, date and time and method of producing the bulk test sample;

d) identification of the mortar sample, including type, origin and designation by reference to the relevant part of prEN 998;

e) the quantity of the lot, or the period of production represented by the bulk sample;

f) the number of increments and the mass of the original bulk sample;

g) age of mortar when sampled;

h) identification mark on sample container;

i) remarks

In addition it is recommended that the following be added, if known:

- mixing procedure, i.e. mixer type and length of mixing period.

5.5 Laboratory examination of bulk test samples

Each bulk test sample received at the laboratory for test shall be examined visually to ascertain whether setting, leakage, or evaporation has occurred. If so, the bulk test sample shall be rejected for further tests, other than sieve analysis (assuming the sample has not hardened). If none of the above factors is

apparent, the whole of the sample, with any liquid that has separated, or has condensed on the inside of the container, shall be removed completely and mixed without loss of water to render it homogeneous.

Where practicable, the temperature of the bulk test sample shall be adjusted to 20 °C ± 5 °C, without loss of water. In all cases the temperature of the sample at the time of test shall be recorded.

5.6 Time of testing

Bulk test samples despatched to a laboratory for testing shall be tested immediately after arrival at the laboratory, and within the specified workable life of the mortar

Test ready to use mortars (factory made wet mortars which are retarded), and pre-batched air-lime/sand wet mortars when not gauged with hydraulic binders, within their specified workable life.

6 Preparation of test mortars from dry constituents and water or prebatched mixes and binders

6.1 Amount of mortar for test samples

The solid content of a prepared mortar mix, or the volume of the fresh mortar mix, shall be within the range given in table 1.

Table 1: Solid content and volume of the mortar mix

Fresh mortar mix	Mixer according to EN 196-1	Pan mixer
Solid content (kg)	1,8 - 3,0	30 - 50
Volume (dm^3)	0,5 - 2,5	25 - 75

6.2 Mixing the mortar

6.2.1 General

Fresh mortar used for the purpose of testing and preparing specimens for tests shall, as far as possible, have the consistence appropriate for its use. Unless otherwise specified, bring the fresh mortar sample to a defined flow value as specified in table 2, and determined in accordance with prEN 1015-3. The water content needed to achieve this consistence is determined by the use of trial mixes.

Table 2: Defined flow value for various types of mortar related to the bulk density of fresh mortar

Bulk density of fresh mortar (kg/m^3)	Flow value (mm)
> 1 200	175 ± 10
>600 to ≤1 200	160 ± 10
>300 to ≤ 600	140 ± 10
≤300	120 ± 10