

Masonry cement - Part 2: Test methods

Masonry cement - Part 2: Test methods

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 413-2:2005 sisaldab Euroopa standardi EN 413-2:2005 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 15.07.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 413-2:2005 consists of the English text of the European standard EN 413-2:2005.</p> <p>This document is endorsed on 15.07.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p>Käsitlusala: This European Standard describes reference and alternative test methods to be used when testing masonry cements to assess their conformity to EN 413-1. It gives the tests on fresh mortar for consistence, water retention and air content.</p>	<p>Scope: This European Standard describes reference and alternative test methods to be used when testing masonry cements to assess their conformity to EN 413-1. It gives the tests on fresh mortar for consistence, water retention and air content.</p>
---	---

ICS 91.100.10

Võtmesõnad: air content, cements, cohesion, consistency, construction

English version

Masonry cement - Part 2: Test methods

Ciment à maçonner - Partie 2: Méthodes d'essai

Putz- und Mauerbinder - Teil 2: Prüfverfahren

This European Standard was approved by CEN on 29 April 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword	3
Introduction	4
1 Scope	5
2 Normative references	5
3 General requirements for testing	5
3.1 Laboratory	5
3.2 Manufacturing tolerances for test equipment	5
3.3 Tolerances for test equipment in use	5
3.4 Number of tests	6
4 Determination of setting time	6
4.1 General	6
4.2 Method A	6
4.3 Method B	6
5 Preparation of standard mortar	7
5.1 Principle	7
5.2 Consistence of fresh mortar by plunger apparatus (reference method)	7
5.3 Consistence of fresh mortar by flow table (alternative method)	8
6 Determination of water retention	9
6.1 Principle	9
6.2 Preparation	9
6.3 Apparatus	11
6.4 Procedure	12
6.5 Repeatability and reproducibility	12
7 Determination of air content	13
7.1 General	13
7.2 Pressure method (reference method)	13
7.3 Alcohol method (alternative method)	14
Bibliography	17

Foreword

This European Standard (EN 413-2:2005) has been prepared by Technical Committee CEN/TC 51 "Cement and building limes", the secretariat of which is held by IBN.

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 December 2005, and conflicting national standards shall be withdrawn at the latest by December 2005.

This European Standard supersedes EN 413-2:1994.

EN 413 *Masonry cement* consists of the following Parts.

- Part 1: *Composition, specifications and conformity criteria*
- Part 2: *Test methods*

The main differences between this European Standard and EN 413-2:1994 are:

- Exclusion of workability (cohesivity).
- Introduction of an optional setting time procedure using the specimen storage conditions (in air) that were previously specified in EN 196-3:1994. This is necessary because the (under water) method specified in EN 196-3:2005, is not suitable for some masonry cements which have low clinker contents.
- Diameter of filter paper used in the water retention test increased from 100 mm to the more readily available 110 mm size.
- Specification introduced for non-woven tissue to be used in the water absorption test.
- Weighing precision in water content test increased from 1 g to 0,1 g.
- Improved description of procedure for filling of air content test apparatus.
- Introduction of precision statements for determination of mortar standard consistency, water retention and air content.
- Clarification of requirements for retesting if mortar flow does not lie within the required range.
- Clarification of requirements for retesting if pairs of results for water retention or air content differ by more than twice the standard deviation of repeatability.
- Clarification of calibration procedures for flow table and air content apparatus.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

This European Standard includes additional test methods to those described in EN 196 *Methods of testing cement* that enable the performance of masonry cement to be assessed when used in mortar for bedding masonry units and for rendering and plastering.

1 Scope

This European Standard describes reference and alternative test methods to be used when testing masonry cements to assess their conformity to EN 413-1. It gives the tests on fresh mortar for consistence, water retention and air content.

In the event of a dispute, only the reference methods are used.

2 Normative references

The following referenced documents are indispensable for the application 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 196-1, *Methods of testing cement — Part 1: Determination of strength*

EN 196-3:2005, *Methods of testing cement — Part 3: Determination of setting time and soundness*

EN 459-2: 2001, *Building lime — Part 2: Test methods*

EN 22768-1, *General tolerances - Part 1: Tolerances for linear and angular dimensions without individual tolerance indications (ISO 2768-1:1989)*

3 General requirements for testing

3.1 Laboratory

Unless specifically stated to the contrary, all the tests described in this document shall be carried out in a laboratory where the air temperature is maintained at $(20 \pm 2) ^\circ\text{C}$ and the relative humidity at not less than 50 %.

3.2 Manufacturing tolerances for test equipment

3.2.1 Dimensions

Figures indicating the specified requirements for apparatus used in the tests described in this document shall include essential dimensions for which manufacturing tolerances are given.

Unless otherwise stated, tolerance class m according to EN 22768-1 should be applied.

NOTE All other dimensions are given for guidance.

3.2.2 Mass

Specified masses shall have manufacturing tolerances within $\pm 1 \%$ of the mass unless otherwise stated.

3.3 Tolerances for test equipment in use

Tolerances applying to apparatus, which has been subjected to wear in use shall not exceed twice the corresponding manufacturing tolerance unless alternative requirements are specified.