



SLOVENSKI STANDARD
SIST EN 197-2:2014

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Nadomešča:
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Cement - 2. del: Ovrednotenje skladnosti

Cement - Part 2: Conformity evaluation

Zement - Teil 2: Konformitätsbewertung

Ciment - Partie 2: Evaluation de la conformité

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ICS:

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

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English Version

Cement - Part 2: Conformity evaluation

Ciment - Partie 2: Evaluation de la conformité

Zement - Teil 2: Konformitätsbewertung

This European Standard was approved by CEN on 9 November 2013.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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EN 197-2:2014 (E)**Foreword**

This document (EN 197-2:2014) has been prepared by Technical Committee CEN/TC 51 "Cement and building limes", the secretariat of which is held by NBN.

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of an identical text or by endorsement, at the latest by July 2014, and conflicting national standards shall be withdrawn at the latest by July 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 197-2:2000.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

Compared to the version EN 197-2:2000, the following major changes have been made in this document:

- use of the terminology given by the Construction Products Regulation (Regulation (EU) No 305/2011) and comparison with the earlier terminology according to the Construction Products Directive (Directive 89/106/EEC) (Annex C);
- link between this European Standard and Annexes ZA of European Standards covering cements;
- guidance concerning the uncertainty of measurements in the evaluation of test results;
- numerical criteria for the evaluation procedure for calcium aluminate cement conforming to EN 14647, (Annex A);
- figure describing the procedure for certification of constancy of performance of cement in a new factory or of a new type of cement in an existing factory (Annex B).

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

1 Scope

This European Standard specifies the scheme for the assessment and verification of constancy of performance (AVCP) of cements to their corresponding product specification standards, including certification of constancy of performance by a product certification body.

The standard provides technical rules for factory production control by the manufacturer, including autocontrol testing of samples, and for the tasks of the product certification body. It also provides rules for actions to be followed in the event of non-conformity, the procedure for the AVCP and requirements for dispatching centres.

In this European Standard, the word “cement” is used to refer both to common cements as defined in EN 197-1 and to other cements and binders for which the relevant product specification standard makes reference to this European Standard and which are submitted for certification. Such a cement is produced at a given factory and belongs to a particular type and a particular strength class, as defined and specified in the relevant product specification standard.

The guidelines given in the Technical Report CEN/TR 14245 [1]¹⁾ should be used for the application of this European Standard.

This European Standard should be linked with Annexes ZA of European Standards covering cements and binders, i.e. EN 197-1, EN 14216, EN 14647, EN 413-1, EN 15743, in particular for the assignments of tasks to the manufacturer and to the product certification body.

NOTE The reason for having drafted this separate document is that the provisions it includes are applicable to different products covered by different European Standards.

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2 Normative references

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The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 196-7, *Methods of testing cement - Part 7: Methods of taking and preparing samples of cement*

EN 413-1, *Masonry cement - Part 1: Composition, specifications and conformity criteria*

EN 14647, *Calcium aluminate cement - Composition, specifications and conformity criteria*

ISO 2854, *Statistical interpretation of data - Techniques of estimation and tests relating to means and variances*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

AVCP

abbreviation for assessment and verification of constancy of performance

1) CEN/TR 14245 is currently in preparation and will revise CR 14245:2001.

EN 197-2:2014 (E)**3.2****certificate of constancy of performance of the product**

document issued under the rules of the scheme for the AVCP indicating that adequate confidence is provided that cement is in conformity with the relevant product specification standard

3.3**conformity mark**

protected mark applied on the basis of the certificate of constancy of performance of the product (see 3.2)

3.4**certified cement**

cement for which a certificate of constancy of performance of the product (see 3.2) has been issued

3.5**initial period**

immediate period starting after the first issuing of the certificate of constancy of performance of the product for a cement and at the latest from the first dispatching of cement

3.6**product certification body**

impartial body, governmental or non-governmental, possessing the necessary competence and responsibility to carry out AVCP according to given rules of procedure and management

3.7**factory production control**

documented, permanent and internal control of production in a factory, in accordance with the relevant harmonized technical specifications

3.8**factory**

facility used by a manufacturer for the production of cement using equipment which is suitable for continuous mass production of cement including, in particular, equipment for adequate grinding and homogenization and the necessary silo capacity for the storage and dispatch of each cement produced

Note 1 to entry: This equipment and the production control applied allow the control of production with sufficient accuracy to ensure that the requirements of the relevant product specification standard are met.

3.9**new factory**

factory which is not already producing cement(s) certified using this European Standard

3.10**existing factory**

factory which is already producing cement(s) certified using this European Standard

3.11**depot**

bulk cement handling facility (not located at the factory) used for the dispatch of cement (whether in bulk or bagged) after transfer or storage where the manufacturer has full responsibility for all aspects of the quality of the cement

3.12**dispatching centre**

facility (not located at the factory) for handling and dispatching of cement (received in bulk or in any other condition) by activities that shall not modify the characteristics or the integrity of the product received from the manufacturer, where an intermediary has full responsibility for all aspects of the quality of the cement

3.13**intermediary**

natural or legal person who takes from the manufacturer or the importer cement certified using this European Standard and bearing the conformity mark, taking full responsibility for maintaining in a cement handling facility all aspects of the quality of the cement and who supplies the cement onwards to a further person

3.14**determination of the product-type**

determination of the set of representative performance levels or classes of a construction product, in relation to its essential characteristics, on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product

3.15**confirmation autocontrol testing**

continual testing carried out by an intermediary which consists of testing of samples taken by the intermediary at the point(s) of release from the dispatching centre

3.16**works' quality manual**

document that provides information on the factory production control which is applied by a manufacturer at a particular factory to ensure conformity of the cement with the requirements of this European Standard and the relevant product specification standard

4 Factory production control by the manufacturer**4.1 General requirements (standards.iteh.ai)****4.1.1 Concept**

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Factory production control means the permanent internal control of cement production exercised by the manufacturer and consists of internal quality control (see 4.2) complemented by autocontrol testing of samples of cement taken at the point of release²⁾ (see 4.3).

NOTE The requirements of this European Standard as regards factory production control take account of those clauses of EN ISO 9001 [2] which are relevant to the production, process control and testing of cement.

4.1.2 Works' quality manual

The manufacturer's documentation and procedures for factory production control shall be described in a Works' quality manual, which shall adequately describe, amongst other things:

- a) the quality aims and the organizational structure, responsibilities and powers of the management with regard to product quality and the means to monitor the achievement of the required product quality and the effective operation of the internal quality control (see 4.1.3);
- b) the manufacturing and quality control techniques, processes and systematic actions that will be used (see 4.2.1, 4.2.3 and 4.3.2);
- c) the inspections and tests that will be carried out before, during and after manufacture, and the frequency with which they will be carried out (see 4.2.2, 4.3.1 and 4.3.3).

2) This testing corresponds also to the "further testing of samples" mentioned in Annex V Section 1.1 point (a) (ii) of the Construction Products Regulation (Regulation (EU) No 305/2011).

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The Works' quality manual prepared by the manufacturer for each factory shall include an adequate system of documentation (see 4.1.4 and 4.3.4).

The Works' quality manual shall address and document the procedures operated to ensure that the manufactured cement conforms to the technical specifications. The manual may reference associated documents which provide further details of the autocontrol testing of samples and the internal quality control. For the purpose of this scheme, the term Works' quality manual shall be considered to include these associated documents.

In the case of an existing quality management system according to EN ISO 9001, the product certification body may examine if the corresponding quality manual meets all the requirements of this European Standard which are relevant to the factory production control of cement. Provided all the requirements are included, this quality manual may also be applied for product certification.

4.1.3 Management systems**4.1.3.1 Quality policy statement**

The Works' quality manual shall include a statement by management defining its quality policy, objectives and commitments to the attainment of product quality.

4.1.3.2 Management representative

The manufacturer shall appoint a management representative who, irrespective of other responsibilities, shall have defined and adequate authority and responsibility for ensuring that the requirements of this European Standard for the AVCP are implemented and maintained.

4.1.3.3 Internal audits and management review

In order to ensure the continuing suitability and effectiveness of the Work's quality manual to meet the requirements of this European Standard, the manufacturer shall perform at least once per year:

- a) internal audits covering the scope of this Clause 4 and 6.1;
- b) a management review of the functioning and the results of the factory production control, taking into account records of the internal audits.

4.1.3.4 Training

The Works' quality manual shall describe the measures taken to ensure that all the personnel involved in operations that can affect internal quality control and product quality have appropriate experience or training. Appropriate records shall be retained.

4.1.4 System of documentation**4.1.4.1 Document control**

The management representative shall be responsible for the control of all documents and data related to factory production control and to this scheme for the AVCP.

This control shall ensure that the appropriate issues of all documents are available at essential locations, that obsolete documents are withdrawn and that changes or modifications to any document are effectively introduced.

The manufacturer shall have a system to identify the current version of documents in order to prevent the use of non-applicable documents.

4.1.4.2 Quality records

The manufacturer shall retain records to provide evidence of factory production control for at least the period required to comply with relevant legislation.

4.2 Internal quality control

4.2.1 Process control

4.2.1.1 General

The Works' quality manual shall describe the parameters for process planning, process control and testing, inspection, corrective action, verification, dispatch and the associated records.

4.2.1.2 Constituents and composition of cement

The manufacturer shall establish documented procedures and appropriate test methods to ensure that the constituents meet the requirements of the relevant product specification standard and are suitable to enable cement to be produced meeting the technical specification.

The Works' quality manual shall describe the methods used by the manufacturer to ensure that the composition of the cement produced conforms to the relevant product specification standard, including appropriate test methods.

4.2.1.3 Control of off-specification production

The Works' quality manual shall contain procedures to ensure that off-specification production is adequately managed.

4.2.2 Measuring and testing

4.2.2.1 Inspection, measuring and test equipment

The equipment for in-process inspection and testing shall be regularly checked and calibrated in accordance with the procedures and frequencies laid down in the Works' quality manual.

4.2.2.2 Inspection and test status

Procedures for the inspection and test status through the stages of manufacture shall be detailed in the Works' quality manual. These shall include procedures for the control of off-specification intermediate materials.

4.2.3 Handling, storage, packaging and delivery

The Works' quality manual shall describe the precautions taken for the protection of the quality of the cement while under the responsibility of the manufacturer. It shall include a description of the procedures used at depots. Delivery documentation shall allow traceability to the producing works.

4.3 Autocontrol testing of samples

4.3.1 Sampling and testing

The manufacturer shall operate a system of autocontrol testing for each certified cement. This system shall be used to demonstrate conformity to the requirements in the clause entitled "Assessment and verification of constancy of performance – AVCP" in the relevant product specification standard. The properties to be tested,