



SLOVENSKI STANDARD
SIST EN 196-12:2025

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Reaktivnost sestavin cementa - Metodi za določanje hidratacijske toplote in vsebnosti vezane vode

Reactivity of cement constituents - Heat of hydration and bound water content methods

Reaktivität von Zementbestandteilen - Verfahren zur Bestimmung der Hydratationswärme und des chemisch gebundenen Wassers

Réactivité des constituants du ciment - Méthodes de détermination de la chaleur d'hydratation et de la teneur en eau liée

Ta slovenski standard je istoveten z: EN 196-12:2024

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ICS:

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

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EUROPEAN STANDARD

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NORME EUROPÉENNE

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English Version

Methods of testing cement - Part 12: Reactivity of cement constituents - Heat of hydration and bound water content methods

Méthodes d'essais des ciments - Partie 12 : Réactivité des constituants du ciment - Méthodes de détermination de la chaleur d'hydratation et de la teneur en eau liée

Prüfverfahren für Zement - Teil 12: Reaktivität von Zementbestandteilen - Verfahren zur Bestimmung der Hydratationswärme und des chemisch gebundenen Wassers

This European Standard was approved by CEN on 12 August 2024.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

	Page
European foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 General requirements for testing.....	5
4.1 Number of tests.....	5
4.2 Repeatability and reproducibility	5
4.2.1 Repeatability.....	5
4.2.2 Reproducibility	5
4.3 Expression of masses, volumes, factors and results.....	5
5 Principle of test methods (A and B).....	6
6 Reagents	6
6.1 General.....	6
6.2 Calcium hydroxide (Ca(OH) ₂)	6
6.3 Potassium hydroxide (KOH)	6
6.4 Potassium sulfate (K ₂ SO ₄)	7
6.5 Calcium carbonate (CaCO ₃) dried to constant mass at (200 ± 10) °C	7
6.6 Potassium solution	7
7 Apparatus.....	7
8 Procedures.....	7
8.1 Preparation of a test cement constituent specimen.....	7
8.2 Testing paste.....	8
8.3 Method A, heat of hydration.....	8
8.3.1 Preparation of the apparatus	8
8.3.2 Paste specimen preparation	9
8.3.3 Measurement of heat release.....	9
8.3.4 Calculations.....	9
8.4 Method B, bound water content.....	9
8.4.1 Paste specimen casting	9
8.4.2 Paste specimen curing.....	9
8.4.3 Cured specimen preparation	10
8.4.4 Bound water content measurement.....	10
8.4.5 Calculations.....	10
8.4.6 Correction for natural pozzolana (P) containing bound water	11
9 Report.....	11
10 Precision.....	12
10.1 Method A, heat of hydration - repeatability and reproducibility	12
10.2 Method B, bound water content - repeatability and reproducibility	12
Bibliography.....	13

European foreword

This document (EN 196-12:2024) 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 June 2025, and conflicting national standards shall be withdrawn at the latest by June 2025.

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

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EN 196-12:2024 (E)

1 Scope

This document specifies two equivalent test methods to assess the chemical reactivity of a pozzolanic or latent hydraulic cement constituent or concrete addition by measurements of heat of hydration (see Clause 5 and 8.3 Method A, Heat of Hydration) or bound water content (see Clause 5 and 8.4 Method B, Bound Water Content) of hydrated pastes composed of the cement constituent or concrete addition, calcium hydroxide, calcium carbonate, potassium sulfate, and potassium hydroxide cured at 40 °C for 72 h and 168 h (3 days and 7 days).

These two test methods measure chemical reactivity of test specimens intended for use as cementitious materials, such as cement constituents and concrete additions. The test methods do not distinguish between latent hydraulic and pozzolanic reactivity.

The test methods are used for qualification purposes if the cement constituents or concrete additions are tested at the fineness as specified by the respective product standards. In the absence of a product standard or a specification in the product standard, the constituents are tested at the fineness of the intended use.

NOTE In case the test methods are used for purposes of comparison of intrinsic reactivity, cement constituents are tested at similar fineness, where possible.

The test methods are also used for testing other new constituents that are latent hydraulic or pozzolanic and that are not covered by EN 197 series product standards. However, for such new constituents the validity of the underlying correlations with strength development have not been verified; in consequence the test results can only be used for informative and indicative purposes.

Furthermore, these test methods are used in manufacturing control of cement constituents for assessing their latent hydraulic or pozzolanic reactivity.

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 196-2, *Method of testing cement — Part 2: Chemical analysis of cement*

EN 196-6, *Methods of testing cement — Part 6: Determination of fineness*

EN 196-11, *Methods of testing cement — Part 11: Heat of hydration — Isothermal Conduction Calorimetry method*

EN 197-1, *Cement — Part 1: Composition, specifications and conformity criteria for common cements*

EN 197-6, *Cement — Part 6: Cement with recycled building materials*

ISO 3310-1:2016, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*

ISO 9277, *Determination of the specific surface area of solids by gas adsorption — BET method*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 197-1, EN 197-6, EN 196-11 and the following apply.

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