SLOVENSKI STANDARD
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Metode preskušanja cementa - 11. del: Toplota hidratacije - Izotermna kondukcijska kalorimetrija (ICC)

Methods of testing cement - Part 11: Heat of hydration - Isothermal Conduction Calorimetry method

Prüfverfahren für Zement - Teil 11: Bestimmung der Hydratationswärme von Zement durch isotherme Wärmeflusskalorimetrie

Méthodes d'essais des ciments - Partie 11 : Détermination de la chaleur d'hydratation du ciment par la calorimétrie isotherme du flux thermique

Ta slovenski standard je istoveten z: **prEN 196-11**

ICS:

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

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English Version

Methods of testing cement - Part 11: Heat of hydration - Isothermal Conduction Calorimetry method

Bestimmung der Hydratationswärme von Zement durch isotherme Wärmeflusskalorimetrie

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 51.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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European foreword

This document (prEN 196-11:2017) has been prepared by Technical Committee CEN/TC 51 “Cement and building limes”, the secretariat of which is held by NBN.

This document is currently submitted to the CEN Enquiry.

Annex A (informative) provides a Glossary.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

1 Scope

This European Standard specifies the apparatus and procedure for determining the heat of hydration of cements and other hydraulic binders at different test ages by isothermal conduction calorimetry.

This test procedure is intended for measuring the heat of hydration of cement up to 7 days in order to obtain data homogeneous with EN 196-8. Nevertheless this test duration may be critical for some apparatus, even if they can work properly at shorter test ages.

Contrary to EN 196-8 (solution method) this method gives the heat of hydration continuously over the time. Additionally, the heat flow versus time is given.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
isothermal conduction calorimeter
apparatus able to measure the heat flow generated by a sample kept at constant temperature. The constant temperature condition is achieved by maintaining the sample in thermal contact with a heat sink

3.2
output of calorimeter
electric signal from the calorimeter expressed in V

3.3
thermal power
heat rate produced by the sample during the test. It is commonly expressed, with reference to the unit mass of cement, in W/g or J/(s*g)

3.4
heat
time integral of the thermal power and expressed in J/g

3.5
baseline
output of the calorimeter when there is an inert sample in the testing and reference cell, both with the same thermal capacity. The recording of this signal is the Baseline output (BO)

3.6
baseline drift (BD)
it represents the slope of the linear regression of the Baseline output vs time measured over a specified period. It is expressed in W/g per time period, with reference to the unit mass of cement