SLOVENSKI STANDARD
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Preskuģanje sveģega betona - 1. del: Vzorģenje

Testing fresh concrete - Part 1: Sampling

Prüfung von Frischbeton - Teil 1: Probenahme

Essais pour béton frais - Partie 1: Prélèvement

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ICS:

91.100.30	Beton in betonski izdelki	Concrete and concrete products

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EUROPEAN STANDARD

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Essais pour béton frais - Partie 1: Prélèvement

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This European Standard was approved by CEN on 20 January 2009.

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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 CEN Management Centre has the same status as the official versions.

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

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Foreword

This document (EN 12350-1:2009 has been prepared by Technical Committee CEN/TC 104 “Concrete and related products”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

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 12350-1:1999.

This standard is one of a series concerned with testing concrete.

This series EN 12350 includes the following parts:

Part 1: Sampling;

Part 2: Slump-test;

Part 3: Vebe test;

Part 4: Degree of compactability;

Part 5: Flow table test;

Part 6: Density;

Part 7: Air content - Pressure methods;

Part 8: Self-compacting concrete - Slump-flow test (in preparation);

Part 9: Self-compacting concrete - V-funnel test (in preparation);

Part 10: Self-compacting concrete - L-box test (in preparation);

Part 11: Self-compacting concrete - Sieve segregation test (in preparation);

Part 12: Self-compacting concrete - J-ring test (in preparation).

CAUTION — When cement is mixed with water, alkali is released. Take precautions to avoid dry cement entering the eyes, mouth and nose whilst mixing concrete. Prevent skin contact with wet cement or concrete by wearing suitable protective clothing. If cement or concrete enters the eye, immediately wash it out thoroughly with clean water and seek medical treatment without delay. Wash wet concrete off the skin immediately.

The following amendments have been made to the 1999-10 edition of this standard:

— editorial revision

— clarification on the method for obtaining a composite or spot sample of fresh concrete

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies two procedures for sampling fresh concrete, by composite sampling and by spot sampling.

NOTE The requirement for remixing the sample before tests on the fresh concrete, or before making test specimens, is included in the relevant standards.

When mixing and sampling of concrete is done in a laboratory, different procedures may be required.

2 Normative references

None applicable

3 Terms and definitions

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

3.1
batch
quantity of fresh concrete which is:

— mixed in one cycle of operation of a batch mixer;

— discharged during 1 min from a continuous mixer;

or

— conveyed ready-mixed in a truck mixer when the load requires more than one cycle of a batch mixer or more than one minute of operation of a continuous mixer

3.2
composite sample
quantity of concrete, consisting of a number of increments distributed through a batch or mass of concrete thoroughly mixed together

3.3
spot sample
quantity of concrete taken from part of a batch or mass of concrete, consisting of one or more increments thoroughly mixed together

3.4
increment
quantity of concrete taken by the single operation of a scoop or similar sampling device

4 Apparatus

4.1 Scoop, or similar sampling device, made from non-absorbent material not readily attacked by cement paste, suitable for taking increments of concrete.

4.2 Container(s), made from non-absorbent material not readily attacked by cement paste, for receiving increments of the concrete.

4.3 Thermometer, (optional), to measure the temperature of the fresh concrete to an accuracy of ± 1 °C.

5 Sampling

5.1 Sampling plan

Depending upon the intended use of the sample, decide whether a spot sample or a composite sample is to be taken. Take at least 1,5 times the quantity estimated as being required for the tests.

5.2 Obtaining a composite sample

Clean all the apparatus prior to use. Using the scoop take the required number of increments uniformly distributed throughout the batch. When sampling from the discharging stream of concrete from a stationary batch mixer or ready-mixed concrete truck, disregard the first part and the last part of the load. If the batch has been deposited in a heap or heaps of concrete, take the increments, wherever possible, distributed through the depth of the concrete, as well as over the exposed surface, at a minimum of five different places. When sampling from a falling stream, take the increments in such a way as to represent the whole width and thickness of the stream. Deposit the increments into the container(s). Record the date and time of sampling.

NOTE When obtaining a composite sample from a ready mixed concrete truck a minimum of four increments is recommended

5.3 Obtaining a spot sample

Clean all the apparatus prior to use. Using the scoop take the increment(s) from the required part of a batch or mass of concrete. When sampling from a falling stream, take the increment(s) in such a way as to represent the whole width and thickness of the stream. Deposit the increment(s) in the container. Record the date and time of sampling.

5.4 Measuring the temperature of the sample

If required, the temperature of the concrete in the container(s) shall be measured.

5.5 Transporting, handling and care of samples

At all stages of sampling, transport and handling, protect the fresh concrete samples against contamination, gaining or losing water and extreme variations of temperature.

NOTE The properties of fresh concrete change with time after mixing, depending upon the environmental conditions. This should be taken into account in deciding the time when tests are carried out or specimens made.

Take care when the concrete is taken from the container(s) to ensure that no more than a light covering of mortar is left adhering to the container(s).