

Testing fresh concrete —

Part 1: Sampling

The European Standard EN 12350-1:1999 has the status of a British Standard

ICS 91.100.300

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National foreword

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 3 and a back cover.

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This British Standard, having been prepared under the direction of the Sector Committee for Building and Civil Engineering, was published under the authority of the Standards Committee and comes into effect on 15 January 2000

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ISBN 0 580 35300 1

Amendments issued since publication

Amd. No.	Date	Comments

EUROPEAN STANDARD

EN 12350-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 1999

ICS 91.100.30

English version

Testing fresh concrete — Part 1: Sampling

Essai pour béton frais —
Partie 1: Echantillonnage

Prüfung von Frischbeton —
Teil 1: Probenahme

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CEN

European Committee for Standardization

Comité Européen de Normalisation

Europäisches Komitee für Normung

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Ref. No. EN 12350-1:1999 E

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 104, Concrete (performance, production, placing and compliance criteria), 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of an identical text or by endorsement, at the latest by April 2000, and conflicting national standards shall be withdrawn at the latest by December 2003.

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

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

It is based on International Standard ISO 2736/1: *Concrete tests — Test specimens — Part 1: Sampling of fresh concrete*.

A draft for this standard was published in 1996 for CEN enquiry as prEN 12378. It was one of a series of individually numbered test methods for fresh or hardened concrete. For convenience it has now been decided to combine these separate draft standards into three new standards with separate parts for each method, as follows:

- *Testing fresh concrete* (EN 12350:1999);
- *Testing hardened concrete* (prEN 12390:1999);
- *Testing concrete in structures* (prEN 12504:1999).

This series EN 12350 includes the following parts where the brackets give the numbers under which particular test methods were published for CEN enquiry:

EN 12350 *Testing fresh concrete*

Part 1: Sampling (former prEN 12378:1996).

Part 2: Slump test (former prEN 12382:1996).

Part 3: Vebe test (former prEN 12350:1996).

Part 4: Degree of compactability.
(former prEN 12357:1996).

Part 5: Flow table test (former prEN 12358:1996).

Part 6: Density (former prEN 12383:1996).

Part 7: Air content — Pressure methods
(former prEN 12395:1996).

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.

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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 Definitions

For the purposes of this standard the following definitions apply.

2.1

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

2.2

composite sample

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

2.3

spot sample

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

2.4

increment

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

3 Apparatus

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

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

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

4 Sampling

4.1 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.

4.2 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 very first part and the very last part. 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.

4.3 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. Deposit the increment(s) in the container. Record the date and time of sampling.

4.4 Measuring the temperature of the sample

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

4.5 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 carded 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).

5 Report of sampling

Each sample shall be accompanied by a report from the person responsible for taking the sample. The report shall include:

- a) identification of the sample;
- b) type of sample (composite or spot);
- c) description of where the sample was taken;
- d) date and time of sampling;
- e) any deviations from the standard method of sampling;
- f) a declaration by the person technically responsible, that the sample was obtained in accordance with this standard, except as noted in item e).

The report may include:

- g) ambient weather and weather conditions;
- h) temperature of the concrete sample.

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