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Standards

Irish Standard
I.S. EN 12390-2:2009

Testing hardened concrete - Part 2: Making and curing specimens for strength tests

I.S. EN 12390-2:2009

Incorporating amendments/corrigenda issued since publication:

<i>This document replaces:</i> I.S. EN 12390-2:2001	<i>This document is based on:</i> EN 12390-2:2009 EN 12390-2:2000	<i>Published:</i> 8 April, 2009 2 February, 2001	
This document was published under the authority of the NSAI and comes into effect on: 3 July, 2009		ICS number: 91.100.30	
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Údarás um Chaighdeáin Náisiúnta na hÉireann			

English Version

Testing hardened concrete - Part 2: Making and curing specimens for strength tests

Essai pour béton durci - Partie 2 : Confection et conservation des éprouvettes pour essais de résistance

Prüfung von Festbeton - Teil 2: Herstellung und Lagerung von Probekörpern für Festigkeitsprüfung

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

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

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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Foreword

This document (EN 12390-2:2009) 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of an identical text or by endorsement, at the latest by October 2009, and conflicting national standards shall be withdrawn at the latest by October 2009.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 12390-2:2000.

The results of a laboratory inter-comparison, part-funded by the EC under the Measurement and Testing Programme contract MATI-CT-94-0043, have been taken into account in the drafting of this European Standard.

The compaction of specimens in the moulds using hand tamping, vibrating table, or internal (poker) vibrator are accepted as equivalent. However, it was found in this programme that the use of an internal vibrator to compact specimens of air entrained fresh concrete should only be done with caution, if loss of entrained air is to be avoided.

Curing specimens in a closely regulated humidity chamber is recognised as being equivalent to curing in water.

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

The series EN 12390 includes the following parts:

EN 12390 Testing hardened concrete –

Part 1: Shape, dimensions and other requirements of specimens and moulds;

Part 2: Making and curing specimens for strength tests;

Part 3: Compressive strength of test specimens;

Part 4: Compressive strength - Specification for testing machines;

Part 5: Flexural strength of test specimens;

Part 6: Tensile splitting strength of test specimens;

Part 7: Density of hardened concrete;

Part 8: Depth of penetration of water under pressure.

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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EN 12390-2:2009 (E)

The following amendments have been made to the 2000-10 edition of this standard:

- editorial revision
- clarification of filling procedure of moulds
- clarification of compacting procedure of 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 methods for making and curing test specimens for strength tests. It covers the preparation and filling of moulds, compaction of the concrete, levelling the surface, curing of test specimens and transporting test specimens.

2 Normative references

The following referenced documents are indispensable for the application 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 12350-1, *Testing fresh concrete – Part 1: Sampling*

EN 12390-1, *Testing hardened concrete – Part 1: Shape, dimensions and other requirements for specimens and moulds*

3 Apparatus

3.1 Moulds, conforming to EN 12390-1

3.2 Filling frame (optional)

NOTE Filling of the moulds may be simplified by using a filling frame fitted tightly to the mould

3.3 Means of compacting the concrete (one of the following)

- a) Internal (poker) vibrator with a minimum frequency of 120 Hz (7 200 cycles per minute), the diameter of the internal vibrator not exceeding one-quarter of the smallest dimension of the test specimen;
- b) Vibrating table with a minimum frequency of 40 Hz (2 400 cycles per minute);
- c) Compacting rod of circular cross-section, made of steel, having a diameter of approximately 16 mm, of length approximately 600 mm and with rounded ends;
- d) Compacting bar, straight, made of steel having a square cross-section of approximately 25 mm x 25 mm and length approximately 380 mm;

3.4 Scoop, with width approximately 100 mm;

3.5 Steel trowel or float;

3.6 Remixing container, a flat tray of rigid construction and made from a non-absorbent material not readily attacked by cement paste. It shall be of appropriate dimensions such that the concrete can be thoroughly re-mixed, using the square-mouthed shovel;

3.7 Shovel, with square mouth;

NOTE The square mouth ensures proper mixing of material on the remixing container.

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