



**NSAI**  
Standards

Irish Standard  
I.S. EN 12390-2:2019

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

**I.S. EN 12390-2:2019**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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## National Foreword

I.S. EN 12390-2:2019 is the adopted Irish version of the European Document EN 12390-2:2019, Testing hardened concrete - Part 2: Making and curing specimens for strength tests

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EUROPEAN STANDARD

EN 12390-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2019

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Supersedes EN 12390-2:2009

English Version

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

Essais 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 Festigkeitsprüfungen

This European Standard was approved by CEN on 29 April 2019.

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## EN 12390-2:2019 (E)

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## European foreword

This document (EN 12390-2:2019) has been prepared by Technical Committee CEN/TC 104 “Concrete and related products”, the secretariat of which is held by SN.

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of an identical text or by endorsement, at the latest by December 2019, and conflicting national standards shall be withdrawn at the latest by December 2019.

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.

This document supersedes EN 12390-2:2009.

The compaction of specimens in the moulds using hand tamping, vibrating table, or internal (poker) vibrator are accepted as equivalent. However, it was found 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 recognized as being equivalent to curing in water.

This standard is one of a series on testing concrete.

EN 12390, *Testing hardened concrete*, consists of the following parts:

- *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;*
- *Part 11: Determination of the chloride resistance of concrete, unidirectional diffusion;*
- *Part 12: Determination of the potential carbonation resistance of concrete: Accelerated carbonation method (in preparation);*
- *Part 13: Determination of secant modulus of elasticity in compression;*
- *Part 14: Semi-adiabatic method for the determination of heat released by concrete during its hardening process;*

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- *Part 15: Adiabatic method for the determination of heat released by concrete during its hardening process;*
- *Part 16: Determination of the shrinkage of concrete (in preparation);*
- *Part 17: Determination of creep of concrete in compression (in preparation);*
- *Part 18: Determination of the chloride migration coefficient (in preparation).*

This edition includes the following significant technical changes with respect to EN 12390-2:2009:

- a) editorial revision;
- b) reference to common apparatus and specification given in EN 12350-1.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



## 1 Scope

This document 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.

NOTE This document can be used for the making and curing of specimens for other test methods.

## 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 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*

EN 206, *Concrete — Specification, performance, production and conformity*

## 3 Terms and definitions

No terms and definitions are listed in this document.

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>

## 4 Apparatus

### 4.1 Common apparatus

The apparatus listed below for the execution of this test method shall be in accordance with the specification given EN 12350-1 and EN 12390-1 as specified below;

**4.1.1 Moulds**, conforming to EN 12390-1.

**4.1.2 Filling frame** (optional).

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

**4.1.3 Means of compacting the concrete** (one of the following):

- a) internal (poker) vibrator;
- b) vibrating table;
- c) compacting rod;
- d) compacting bar.

**4.1.4 Scoop**.

**4.1.5 Trowel** or float.

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