KIVISTUNUD BETOONI KATSETAMINE OSA 17: BETOONI ROOME MÄÄRAMINE SURVEL

Testing hardened concrete - Part 17: Determination of creep of concrete in compression

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 12390-17:2019 sisaldab Euroopa standardi EN 12390-17:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 12390-17:2019 consists of the English text of the European standard EN 12390-17:2019.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 02.10.2019.	Date of Availability of the European standard is 02.10.2019.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 91.100.30

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12390-17

October 2019

ICS 91.100.30

English Version

Testing hardened concrete - Part 17: Determination of creep of concrete in compression

Essais pour béton durci - Partie 17 : Détermination du fluage du béton en compression

Prüfung von Festbeton - Teil 17: Bestimmung des Kriechens von Beton unter Druckspannung

This European Standard was approved by CEN on 19 August 2019.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN 12390-17:2019 E

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European foreword

This document (EN 12390-17:2019) 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of an identical text or by endorsement, at the latest by April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

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 is based on ISO 1920-9 and ASTM C512-02.

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 for 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 10: Determination of the carbonation resistance of concrete at atmospheric levels of carbon dioxide;*

— *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;*

— *Part 15: Adiabatic method for the determination of heat released by concrete during its hardening process;*

— *Part 16: Determination of the shrinkage of concrete;*

— *Part 17: Determination of creep of concrete in compression.*

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This document describes the procedure for determining the creep (total creep, basic creep and drying creep) of hardened concrete test specimens subjected to a sustained longitudinal compressive load.

The test is suitable for specimens having a declared value of D of the coarsest fraction of aggregates actually used in the concrete (D_{max}) not greater than 32 mm.

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 and common apparatus*

EN 12390-1:2012, *Testing hardened concrete — Part 1: Shape, dimensions and other requirements for specimens and moulds*

EN 12390-2, *Testing hardened concrete — Part 2: Making and curing specimens for strength tests*

EN 12390-3, *Testing hardened concrete — Part 3: Compressive strength of test specimens*

EN 12390-16, *Testing hardened concrete — Part 16: Determination of the shrinkage of concrete*

EN 12504-1, *Testing concrete in structures — Part 1: Cored specimens — Taking, examining and testing in compression*

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 https://www.iso.org/obp

3.1
initial strain
strain measured immediately after the application of the test load on the specimen

3.2
creep
strain under constant load obtained in defined conditions of temperature and relative humidity

3.2.1
total creep
strain measured under constant load in defined conditions of temperature and relative humidity after subtracting initial and shrinkage strain

3.2.2
basic creep
strain measured under constant load in isothermal conditions and in the absence of moisture exchange between the specimen and the surrounding environment