

საქართველოს სტანდარტი

ნედლი ბეტონის გამოცდა - ნაწილი 7: ჰაერის შემცველობა - წნევის
მეთოდები

საქართველოს სტანდარტებისა და მეტროლოგიის
ეროვნული სააგენტო
თბილისი

სსტ ენ 12350-7:2019/2019

საინფორმაციო მონაცემები

1 შემუშავებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს სტანდარტების დეპარტამენტის მიერ

2 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს 2019 წლის 2 დეკემბრის № 95 განკარგულებით

3 მიღებულია გარეკანის თარგმნის მეთოდით სტანდარტიზაციის ევროპული კომიტეტის სტანდარტი ენ 12350-7:2019 “ნედლი ბეტონის გამოცდა - ნაწილი 7: ჰაერის შემცველობა - წნევის მეთოდები”

4 პირველად

5 რეგისტრირებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2019 წლის 2 დეკემბერი №268-1.3-016121

დაუშვებელია წინამდებარე სტანდარტის სრული ან ნაწილობრივი კვლავწარმოება, ტირაჟირება და გავრცელება სსიპ საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს ნებართვის გარეშე

English Version

Testing fresh concrete - Part 7: Air content - Pressure methods

Essais pour béton frais - Partie 7 : Teneur en air -
Méthode de la compressibilité

Prüfung von Frischbeton - Teil 7: Luftgehalt -
Druckverfahren

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

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.



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

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

Contents

Page

European foreword..... 4

1 Scope 6

2 Normative references 6

3 Terms and definitions 6

4 Principles 6

4.1 General..... 6

4.2 Water column method..... 6

4.3 Pressure gauge method 7

5 Water column method..... 7

5.1 Common apparatus for fresh concrete testing..... 7

5.2 Procedure..... 9

5.2.1 Sampling..... 9

5.2.2 Filling the air test container and compacting the concrete 9

5.2.3 Mechanical vibration 9

5.2.4 Compacting by hand with compacting rod or bar 10

5.2.5 Measuring air content 10

6 Pressure gauge method 10

6.1 Common apparatus for fresh concrete testing..... 10

6.1.1 Pressure gauge meter..... 10

6.2 Procedure..... 12

6.2.1 Sampling..... 12

6.2.2 Filling the air test container and compacting the concrete 12

6.2.3 Mechanical vibration 13

6.2.4 Compacting by hand with compacting rod or bar 13

6.2.5 Measuring air content 13

7 Calculation and expression of results..... 13

8 Test report..... 14

9 Precision..... 14

9.1 Water column method..... 14

9.2 Pressure gauge method 15

Annex A (normative) Aggregate correction factor – water column method 16

A.1 General..... 16

A.2 Aggregate sample size 16

A.3 Filling the air test container..... 16

A.4 Determination of aggregate correction factor..... 17

Annex B (normative) Aggregate correction factor – pressure gauge method..... 18

B.1 General..... 18

B.2 Aggregate sample size 18

B.3 Filling the air test container..... 18

საინფორმაციო ნაწილი. სრული ტექსტის სახსრად შეიძლება სტანდარტი.

B.4	Determination of aggregate correction factor	19
Annex C	(normative) Calibration of apparatus – water column method.....	20
C.1	General	20
C.2	Apparatus	20
C.3	Capacity of the calibration cylinder	20
C.4	Capacity of the air test container	20
C.5	Pressure expansion constant, e	21
C.6	Calibration constant, K	21
C.7	Required operating pressure	21
C.8	Alternative operating pressure	22
Annex D	(normative) Calibration of apparatus – pressure gauge method	23
D.1	General	23
D.2	Apparatus	23
D.3	Checking the capacity of the air test container.....	23
D.4	Checking air content graduations on the pressure gauge	23
	Bibliography	25

European foreword

This document (EN 12350-7:2019) 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 12350-7:2009.

The results of a laboratory inter-comparison, in part funded by the EC under Measurement and Testing Programme, Contract MAT1-CT-94-0043 which investigated these two methods of measuring air content, did not find significant difference between them. 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.

The determination of the aggregate correction value for the two methods has been included in normative Annexes A and B.

The method of calibrating the two types of apparatus has been included in normative Annexes C and D.

This standard is one of a series on testing concrete.

EN 12350, *Testing fresh concrete*, consists of the following parts:

- *Part 1: Sampling and common apparatus*
- *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*
- *Part 9: Self-compacting concrete – V-funnel test*
- *Part 10: Self-compacting concrete – L-box test*
- *Part 11: Self-compacting concrete – Sieve segregation test*
- *Part 12: Self-compacting concrete – J-ring test*

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.

The following amendments have been made to the 2009 edition of this standard:

- a) editorial revisions;
- 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, 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.