

**Soil quality - Determination of carbonate content -
Volumetric method (ISO 10693:1995)**

EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 10693:2014 sisaldab Euroopa standardi EN ISO 10693:2014 inglisekeelset teksti.	This Estonian standard EVS-EN ISO 10693:2014 consists of the English text of the European standard EN ISO 10693:2014.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 26.03.2014.	Date of Availability of the European standard is 26.03.2014.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

Soil quality - Determination of carbonate content - Volumetric method (ISO 10693:1995)

Qualité du sol - Détermination de la teneur en carbonate -
Méthode volumétrique (ISO 10693:1995)

Bodenbeschaffenheit - Bestimmung des Carbonatgehaltes -
Volumetrisches Verfahren (ISO 10693:1995)

This European Standard was approved by CEN on 13 March 2014.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of ISO 10693:1995 has been prepared by Technical Committee ISO/TC 190 "Soil quality" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 10693:2014 by Technical Committee CEN/TC 345 "Characterization of soils" the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by September 2014, and conflicting national standards shall be withdrawn at the latest by September 2014.

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Endorsement notice

The text of ISO 10693:1995 has been approved by CEN as EN ISO 10693:2014 without any modification.

EVS

Soil quality — Determination of carbonate content — Volumetric method

1 Scope

This International Standard specifies a method for the determination of carbonate content in soil samples.

It is applicable to all types of air-dried soil samples.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

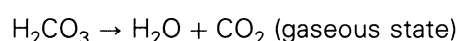
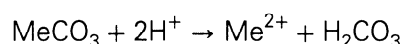
ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*.

ISO 11464:1994, *Soil quality — Pretreatment of samples for physico-chemical analyses*.

ISO 11465:1993, *Soil quality — Determination of dry matter and water content on a mass basis — Gravimetric method*.

3 Principle

Hydrochloric acid is added to a soil sample to decompose any carbonates present. The reaction in simplified form reads as follows (Me means metal):



The volume of the carbon dioxide produced is measured by using a Scheibler apparatus (5.1), and is compared with the volume of carbon dioxide produced by pure calcium carbonate. To avoid making corrections for differences in temperature and pressure, all determinations are carried out under the same conditions. The determination should be carried out in a temperature-controlled room.

NOTES

1 The carbonate content is expressed as an equivalent concentration of calcium carbonate (CaCO_3). In fact all carbonates and bicarbonates present in the sample are measured. Many carbonates appear in the form of calcite and aragonite (CaCO_3), dolomite [$\text{CaMg}(\text{CO}_3)_2$], siderite (FeCO_3) and rhodochrosite (MnCO_3). In soils in dry (arid) regions, soda ($\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$) may be present. When it is known that a certain form of carbonate, other than calcium carbonate, is mainly present in the soil under study, the final concentration of this form can be used.