Soil quality - Determination of soil water content as a volume fraction using coring sleeves - Gravimetric method (ISO 11461:2001)

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NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 11461:2014 sisaldab Euroopa standardi EN ISO 11461:2014 inglisekeelset teksti.	This Estonian standard EVS-EN ISO 11461:2014 consists of the English text of the European standard EN ISO 11461:2014.
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.

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

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English Version

Soil quality - Determination of soil water content as a volume fraction using coring sleeves - Gravimetric method (ISO 11461:2001)

Qualité du sol - Détermination de la teneur en eau du sol en fraction volumique, à l'aide de carottiers - Méthode gravimétrique (ISO 11461:2001)

Bodenbeschaffenheit - Bestimmung des Wassergehaltes des Bodens als Volumenanteil mittels Stechzylinder - Gravimetrisches Verfahren (ISO 11461:2001)

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

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Foreword

The text of ISO 11461:2001 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 11461:2014 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of an identical text or by endorsement, at the latest by September 2014, and conflicting national standards shall be withdrawn at the latest by September 2014.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 11461:2001 has been approved by CEN as EN ISO 11461:2014 without any modification.

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Soil quality — Determination of soil water content as a volume fraction using coring sleeves — Gravimetric method

1 Scope

This International Standard specifies a method for the gravimetric determination of soil water content as a volume fraction.

The method is applicable to all types of non-swelling or non-shrinking soils where coring sleeves can be used for sampling. It is not applicable to soils where stones, tough roots or other factors prevent collection of soil cores. It is used as a reference method (e.g. the calibration of indirect methods for determination of water content).

NOTE The determination of water content as a mass fraction is described in ISO 11465.

2 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

2.1
water content volume fraction
θ
volume of water evaporating from the soil when dried to constant mass at 105 °C, divided by the original bulk volume of the soil

NOTE The water content volume fraction is sometimes also referred to as “volumetric water content”.

2.2
constant mass
mass reached when during the drying process the difference between two successive weighings of the sample, after a drying interval of 4 h, does not exceed 0,1 % (mass fraction) of the last determined mass

NOTE Usually 16 h to 24 h is sufficient for drying most soils to constant mass, but certain soil types and large or very wet samples will require longer.

3 Symbols

m mass, expressed in kilograms

V volume, expressed in cubic metres

s_x sample standard deviation of variable x

Δ_x standard deviation of the errors in variable x

θ water content volume fraction

ρ_w density of water, expressed in kilograms per cubic metre ($kg \cdot m^{-3}$)