
**Soil quality — Determination of soil water
content as a volume fraction on the basis
of known dry bulk density — Gravimetric
method**

*Qualité du sol — Détermination de la teneur en eau volumique du sol à
partir de la masse volumique apparente sèche connue — Méthode
gravimétrique*



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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Foreword

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ISO 16586 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 5, *Physical methods*.

Introduction

The determination of water content volume fraction using coring sleeves, which is described in ISO 11461, is the basic method for determination of the water content volume fraction. This International Standard provides a less precise method than that given in ISO 11461.

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Soil quality — Determination of soil water content as a volume fraction on the basis of known dry bulk density — Gravimetric method

1 Scope

This International Standard specifies a method for the gravimetric determination of soil water content as a volume fraction on the basis of the ratio of measured water content mass to known dry bulk density.

This International Standard is applicable to all types of non-swelling or non-shrinking soils. It is used as a reference method (e.g. the calibration of indirect methods for determination of water content).

2 Normative references

The following referenced documents are indispensable for the application 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.

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

3 Terms and definitions

3.1

water content

water content mass fraction

water content mass ratio

ratio of the mass of water evaporating from the soil when dried to constant mass at 105 °C, to the dry mass of the soil sample

NOTE For soil with high content of organic matter, drying at a temperature below 70 °C is usual practice.

3.2

dry bulk density

mass of the solid particles divided by the undisturbed bulk volume of the soil

3.3

water content volume fraction

volumetric water content

ratio of the volume of water evaporating from the soil when dried to constant mass at 105 °C, to the original bulk volume of the soil