

INTERNATIONAL STANDARD

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Soil quality — Determination of dry matter and water content on a mass basis — Gravimetric method

*Qualité du sol — Détermination de la teneur en matière sèche et en eau
pondérale — Méthode gravimétrique*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 11465 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 3, *Chemical methods and soil characteristics*.

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International Organization for Standardization

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Soil quality — Determination of dry matter and water content on a mass basis — Gravimetric method

1 Scope

This International Standard specifies a method for the determination of the dry matter content and water content of soil samples on a mass basis.

This method can be applied to all types of soil samples. Different procedures are specified for air-dried soil samples, for example samples pretreated according to ISO 11464, and for field-moist soil samples.

For the determination of soil water content on a volume basis, refer to ISO 11461.

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 11461:—¹⁾, *Soil quality — Determination of soil water content on a volume basis — Gravimetric method*.

ISO 11464:—¹⁾, *Soil quality — Pretreatment of samples for physico-chemical analyses*.

3 Definitions

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

1) To be published.

3.1 dry matter content on a mass basis w_{dm} : Dry residue of soil, expressed as a percentage by mass, after drying according to this International Standard.

3.2 water content on a dry mass basis, w_{H_2O} : Mass of water evaporating from the soil when dried to constant mass at 105 °C, divided by the dry mass of the soil and multiplied by 100.

3.3 constant mass: Mass reached when, during the drying process, the difference between two successive weighings of the cooled sample, with an interval of 4 h between them, does not exceed 0,1 % (m/m) of the last determined mass.

NOTE 1 Usually 16 h to 24 h is sufficient for drying most soils to constant mass, but certain soil types and large samples will require longer.

4 Principle

Soil samples are dried to constant mass at 105 °C ± 5 °C. The difference in mass of an amount of soil before and after the drying procedure is used to calculate the dry matter and water contents on a mass basis.

5 Apparatus

5.1 Drying oven, thermostatically controlled with forced air ventilation and capable of maintaining a temperature of 105 °C ± 5 °C.

5.2 Desiccator, with an active drying agent.

5.3 Analytical balance, accuracy 10 mg.