



**SLOVENSKI STANDARD**  
**SIST EN ISO 11272:2014**

**01-maj-2014**

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**Kakovost tal - Določevanje prostorninske gostote suhih vzorcev (ISO 11272:1998)**

Soil quality - Determination of dry bulk density (ISO 11272:1998)

Bodenbeschaffenheit - Bestimmung der Trockenrohddichte (ISO 11272:1998)

Qualité du sol - Détermination de la masse volumique apparente sèche (ISO 11272:1998)

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**Ta slovenski standard je istoveten z: EN ISO 11272:2014**

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**ICS:**

13.080.20      Fizikalne lastnosti tal      Physical properties of soils

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EUROPEAN STANDARD

EN ISO 11272

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2014

ICS 13.080.20

English Version

## Soil quality - Determination of dry bulk density (ISO 11272:1998)

Qualité du sol - Détermination de la masse volumique  
apparente sèche (ISO 11272:1998)Bodenbeschaffenheit - Bestimmung der Trockenrohddichte  
(ISO 11272:1998)

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

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.

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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

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## Foreword

The text of ISO 11272:1998 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 11272:2014 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 11272:1998 has been approved by CEN as EN ISO 11272:2014 without any modification.

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INTERNATIONAL  
STANDARD

ISO  
11272

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1998-07-01

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**Soil quality — Determination of dry bulk  
density**

*Qualité du sol — Détermination de la masse volumique apparente sèche*

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Reference number  
ISO 11272:1998(E)

## ISO 11272:1998(E)

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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 11272 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 5, *Physical methods*.

Annexes A and B of this International Standard are for information only.

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## Introduction

The dry bulk density is used together with the particle density (see ISO 11508) for the calculation of the solids content and porosity of soil for the evaluation of soil structure, and conversion of concentrations of substances in soil from mass/volume to mass/mass and vice versa.

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# Soil quality — Determination of dry bulk density

## 1 Scope

This International Standard describes three methods for the determination of dry bulk density of soils calculated from the mass and the volume of a soil sample. The methods involve drying and weighing a soil sample, the volume of which is either known (core method, see 4.1) or has to be determined (excavation method, see 4.2, and clod method, see 4.3).

## 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was 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 edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 10381-1: –<sup>1)</sup>, *Soil quality — Sampling — Part 1: Guidance on the design of sampling programmes.*

## 3 Definition

[SIST EN ISO 11272:2014  
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For the purposes of this International Standard, the following definition applies.

### 3.1 dry bulk density

Ratio of the oven-dry mass of the solids to the volume of the soil.

NOTE 1 The bulk volume includes the volume of the solids and of the pore space.

NOTE 2 The preferred SI unit of measurement is kilograms per cubic metre ( $\text{kg} \cdot \text{m}^{-3}$ ) but grams per cubic centimetre ( $\text{g} \cdot \text{cm}^{-3}$ ) is also very common. Note that  $x \text{ g} \cdot \text{cm}^{-3} = 1000 x \text{ kg} \cdot \text{m}^{-3}$ .

## 4 Test procedure

### 4.1 Core method

#### 4.1.1 Principle

This method is applicable to stoneless and slightly stony soils. Core samples of known volume are taken with a metal sampling tool. The sample is dried in an oven, weighed and the dry bulk density is calculated.

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<sup>1)</sup> To be published.