

Soil quality - Determination of particle density (ISO 11508:1998)

This document is a preview generated by EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 11508:2014 sisaldab Euroopa standardi EN ISO 11508:2014 inglisekeelset teksti.	This Estonian standard EVS-EN ISO 11508:2014 consists of the English text of the European standard EN ISO 11508:2014.
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.

ICS 13.080.20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Aru 10, 10317 Tallinn, Eesti; www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:
Aru 10, 10317 Tallinn, Estonia; www.evs.ee; phone 605 5050; e-mail info@evs.ee

ICS 13.080.20

English Version

Soil quality - Determination of particle density (ISO 11508:1998)Qualité du sol - Détermination de la masse volumique des
particules (ISO 11508:1998)Bodenbeschaffenheit - Bestimmung der Kornrohichte (ISO
11508:1998)

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.

CEN members are the national standards bodies of 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 United Kingdom.



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 11508:1998 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 11508:2014 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 11508:1998 has been approved by CEN as EN ISO 11508:2014 without any modification.

Contents

Page

1	Scope	1
2	Normative references	1
3	Definition	1
4	Procedure	2
	4.1 Fine soil (< 2 mm diameter)	2
	4.1.1 Principle	2
	4.1.2 Apparatus	2
	4.1.3 Sampling	2
	4.1.4 Density determination	2
	4.1.5 Calculation	3
	4.2 Gravel and stones (> 2 mm diameter)	3
	4.2.1 Apparatus	3
	4.2.2 Density determination	3
	4.2.3 Calculation	4
5	Test report	4

© ISO 1998

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization
 Case postale 56 • CH-1211 Genève 20 • Switzerland
 Internet central@iso.ch
 X.400 c=ch; a=400net; p=iso; o=isocs; s=central

Printed in Switzerland

Introduction

The particle density (ρ_s) is used together with the dry bulk density (ρ_s^d , see ISO 11272) for the calculation of the pore volume of a soil layer.

This document is a preview generated by EVS

Soil quality — Determination of particle density

1 Scope

This International Standard describes two methods for the determination of particle density of soils calculated from the mass and the volume of soil particles.

The first method (4.1) is applicable to fine soil (< 2 mm diameter) and the second method (4.2) is applicable to both porous and nonporous gravel and stones (> 2 mm diameter).

The particle density may be used for the calculation of the proportion of solids and of the porosity of soil layers in combination with the procedure given in ISO 11272.

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 565:1990, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings.*

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

ISO 11272:—¹⁾, *Soil quality — Determination of dry bulk density.*

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

3 Definition

For the purposes of this International Standard, the following definition applies.

3.1 particle density: Ratio of the total mass of oven-dry solid particles (minerals, organic matter) to the volume of these particles.

NOTE 1 The volume comprises internal pores of soil particles but pore spaces between particles are excluded.

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 $x \text{ g} \cdot \text{cm}^{-3} = 1000 x \text{ kg} \cdot \text{m}^{-3}$

¹⁾ To be published.