

Geotechnical investigation and testing - Laboratory  
testing of soil - Part 1: Determination of water content  
(ISO 17892-1:2014)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 17892-1:2014 sisaldab Euroopa standardi EN ISO 17892-1:2014 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 17892-1:2014 consists of the English text of the European standard EN ISO 17892-1:2014.
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 03.12.2014.	Date of Availability of the European standard is 03.12.2014.
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](mailto:standardiosakond@evs.ee).

ICS 13.080.20, 93.020

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; koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto: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; homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

English Version

**Geotechnical investigation and testing - Laboratory testing of soil  
- Part 1: Determination of water content (ISO 17892-1:2014)**

Reconnaissance et essais géotechniques - Essais de  
laboratoire sur les sols - Partie 1: Détermination de la  
teneur en eau (ISO 17892-1:2014)

Geotechnische Erkundung und Untersuchung -  
Laborversuche an Bodenproben - Teil 1: Bestimmung des  
Wassergehalts (ISO 17892-1:2014)

This European Standard was approved by CEN on 18 October 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

This document (EN ISO 17892-1:2014) has been prepared by Technical Committee ISO/TC 182 "Geotechnics" in collaboration Technical Committee CEN/TC 341 "Geotechnical Investigation and Testing" the secretariat of which is held by BSI.

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 June 2015, and conflicting national standards shall be withdrawn at the latest by June 2015.

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.

This document supersedes CEN ISO/TS 17892-1:2004.

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 17892-1:2014 has been approved by CEN as EN ISO 17892-1:2014 without any modification.

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Equipment</b> .....	<b>1</b>
<b>5 Test procedure</b> .....	<b>2</b>
5.1 Test specimen preparation.....	2
5.2 Test execution.....	3
<b>6 Test results</b> .....	<b>4</b>
<b>7 Test report</b> .....	<b>4</b>
<b>Annex A (normative) Calibration, maintenance and checks</b> .....	<b>6</b>
<b>Annex B (informative) Explanations</b> .....	<b>8</b>
<b>Annex C (informative) Fluid content</b> .....	<b>9</b>
<b>Bibliography</b> .....	<b>10</b>

## Introduction

This document covers areas in the international field of geotechnical engineering never previously standardised internationally. It is intended that this document presents broad good practice throughout the world and significant differences with national documents is not anticipated. It is based on international practice (see Reference [\[1\]](#)).

# Geotechnical investigation and testing — Laboratory testing of soil —

## Part 1: Determination of water content

### 1 Scope

This International Standard specifies a method of determining the water content of soils.

This International Standard is applicable to the laboratory determination of the water (also known as moisture) content of a soil test specimen by oven-drying within the scope of geotechnical investigations. The water content is required as a guide to the classification of natural soils and as a control criterion in re-compacted soils, and is measured on samples used for most field and laboratory tests. The oven-drying method is the definitive procedure used in usual laboratory practice.

The practical procedure for determining the water content of a soil is to determine the mass loss on drying the test specimen to a constant mass in a drying oven controlled at a given temperature. The mass loss is assumed to be due to free water and is referenced to the remaining dry mass of solid particles.

**NOTE** This document fulfils the requirements of the determination of water content of soils for geotechnical investigation and testing in accordance with EN 1997-1 and EN 1997-2.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 386, *Liquid-in-glass laboratory thermometers — Principles of design, construction and use*

ISO 14688-1, *Geotechnical investigation and testing — Identification and classification of soil — Part 1: Identification and description*

### 3 Terms and definitions

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

#### 3.1 water content

$w$

ratio of the mass of free water to the mass of dry soil

#### 3.2 fluid content

$w_{fl}$

ratio of the mass of free water including dissolved solids to the mass of dry soil

### 4 Equipment

See [Annex A](#) for calibration requirements of the following equipment.