Geotechnical investigation and testing - Laboratory testing of soil - Part 1: Determination of water content (ISO 17892-1:2014 + ISO 17892-1:2014/Amd 1:2022)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 17892-1:2014 +A1:2022 sisaldab Euroopa standardi EN ISO 17892-1:2014 ja selle muudatuse A1:2022 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 17892-1:2014 +A1:2022 consists of the English text of the European standard EN ISO 17892-1:2014 and its amendment A1:2022.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 03.12.2014, muudatus A1 18.05.2022.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation. Date of Availability of the European standard is 03.12.2014, for A1 18.05.2022.
Muudatusega A1 lisatud või muudetud teksti algus ja lõpp on tekstis tähistatud sümbolitega [A1] ⟨A1⟩. Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The start and finish of text introduced or altered by amendment A1 is indicated in the text by tags [A1] ⟨A1⟩. The standard is available from the Estonian Centre for Standardisation and Accreditation.

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; 93.020

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 17892-1 + A1

December 2014, May 2022

ICS 13.080.20; 93.020

Supersedes CEN ISO/TS 17892-1:2004

English Version

Geotechnical investigation and testing - Laboratory testing of soil - Part 1: Determination of water content (ISO 17892-1:2014 + ISO 17892-1:2014/Amd 1:2022)

Reconnaissance et essais géotechniques - Essais de laboratoire sur les sols - Partie 1: Détermination de la teneur en eau (ISO 17892-1:2014 + ISO 17892-1:2014/Amd 1:2022)

Geotechnische Erkundung und Untersuchung - Laborversuche an Bodenproben - Teil 1: Bestimmung des Wassergehalts (ISO 17892-1:2014 + ISO 17892-1:2014/Amd 1:2022)

This European Standard was approved by CEN on 18 October 2014. Amendment A1 was approved by CEN on 31 March 2022.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN ISO 17892-1:2014 E + EN ISO 17892-1:2014/A1:2022 E

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.

A1 Amendment A1 European foreword

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This Amendment to the European Standard EN ISO 17892-1:2014 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2022, and conflicting national standards shall be withdrawn at the latest by November 2022.

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Endorsement notice

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: Foreword - Supplementary information

ISO 17892-1 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 341, *Geotechnical investigation and testing*, in collaboration with Technical Committee ISO/TC 182, *Geotechnics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 17892-1 cancels and replaces ISO/TS 17892-1:2004, which has been technically revised. It also incorporates the Technical Corrigendum ISO/TS 17892-1:2004/Cor 1:2006.

ISO 17892 consists of the following parts, under the general title "*Geotechnical investigation and testing — Laboratory testing of soil*":

— *Part 1: Determination of water content*

— *Part 2: Determination of bulk density*

— *Part 3: Determination of particle density*

— *Part 4: Determination of particle size distribution*

— *Part 5: Incremental loading oedometer test*

— *Part 6: Fall cone test*

— *Part 7: Unconfined compression test on fine-grained soils*

— *Part 8: Unconsolidated undrained triaxial test*

— *Part 9: Consolidated triaxial compression tests on water-saturated soils*

— *Part 10: Direct shear tests*

— *Part 11: Determination of permeability by constant and falling head*

— *Part 12: Determination of Atterberg limits*

[A1] Amendment A1 foreword

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A list of all parts in the ISO 17892 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html. [A1]

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]).

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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