# SLOVENSKI STANDARD
# SIST EN ISO 17892-11:2019

**01-maj-2019**

**Nadomešča:**
**SIST-TS CEN ISO/TS 17892-11:2004**
**SIST-TS CEN ISO/TS 17892-11:2004/AC:2010**

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**Geotehnično preiskovanje in preskušanje - Laboratorijsko preskušanje zemljin - 11. del: Ugotavljanje prepustnosti (ISO 17892-11:2019)**

Geotechnical investigation and testing - Laboratory testing of soil - Part 11: Permeability tests (ISO 17892-11:2019)



Geotechnische Erkundung und Untersuchung - Laborversuche an Bodenproben - Teil 11: Bestimmung der Wasserdurchlässigkeit (ISO 17892-11:2019)



Reconnaissance et essais géotechniques - Essais de laboratoire sur les sols - Partie 11: Essais de perméabilité (ISO 17892-11:2019)

**Ta slovenski standard je istoveten z:** **EN ISO 17892-11:2019**

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**ICS:**

| | | |
|---|---|---|
| 13.080.20 | Fizikalne lastnosti tal | Physical properties of soils |
| 93.020 | Zemeljska dela. Izkopavanja. Gradnja temeljev. Dela pod zemljo | Earthworks. Excavations. Foundation construction. Underground works |

**SIST EN ISO 17892-11:2019** **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN ISO 17892-11

February 2019

ICS 13.080.20; 93.020

Supersedes CEN ISO/TS 17892-11:2004

English Version

# Geotechnical investigation and testing - Laboratory testing of soil - Part 11: Permeability tests (ISO 17892-11:2019)

Reconnaissance et essais géotechniques - Essais de laboratoire sur les sols - Partie 11: Essais de perméabilité (ISO 17892-11:2019)

Geotechnische Erkundung und Untersuchung - Laborversuche an Bodenproben - Teil 11: Bestimmung der Wasserdurchlässigkeit (ISO 17892-11:2019)

This European Standard was approved by CEN on 8 February 2019.

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: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (EN ISO 17892-11:2019) has been prepared by Technical Committee ISO/TC 182 "Geotechnics" in collaboration with 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 August 2019, and conflicting national standards shall be withdrawn at the latest by August 2019.

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

This document supersedes CEN ISO/TS 17892-11:2004.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



## Endorsement notice

The text of ISO 17892-11:2019 has been approved by CEN as EN ISO 17892-11:2019 without any modification.

INTERNATIONAL STANDARD

**ISO 17892-11**

First edition
2019-01

# Geotechnical investigation and testing — Laboratory testing of soil —

## Part 11: Permeability tests

*Reconnaissance et essais géotechniques — Essais de laboratoire sur les sols —*

*Partie 11: Essais de perméabilité*



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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 (see 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 of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.



This document was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 341, *Geotechnical Investigation and Testing*, in collaboration with ISO Technical Committee ISO/TC 182, *Geotechnics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).



This first edition cancels and replaces ISO/TS 17892-11:2004, which has been technically revised. It also incorporates the Technical Corrigendum ISO/TS 17892-11:2004/Cor 1:2006.

The main changes compared to the previous edition are as follows:

— the document has been restructured with general revision of text and figures and addition of specimen preparation procedures;

— types of apparatus have been included for rigid wall permeameters, both cylindrical and oedometer ring equipment, and flexible wall permeameters;

— permeability measurement by constant head, falling head and constant flow conditions has been included;

— normative Annex A on calibration, maintenance and checks has been added.

A list of all the 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.

 

# Introduction

This document provides laboratory test methods for the determination of the coefficient of permeability of soils within the international field of geotechnical engineering.

The tests have not previously been standardized internationally. It is intended that this document presents broad good practice and significant differences with national documents is not anticipated. It is based on international practice (see Reference [1]).

The permeability test is carried out on a cylindrical test specimen that is either confined laterally by a rigid container or by a flexible membrane. The specimen is subjected to differential hydraulic head and the water flow is measured under either a constant or falling head. The results are used to determine the coefficient of permeability of the soil specimen. Tests can be carried out on undisturbed, remoulded, compacted or reconstituted specimens.

The calculation of the coefficient of permeability assumes the application of Darcy's law for laminar flow of water under saturated conditions.

It is possible that the size of the specimen does not adequately represent the fabric features present in field conditions.