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**Geotehnično preiskovanje in preskušanje - Laboratorijsko preskušanje zemljin -
10. del: Neposredni strižni preskus (ISO 17892-10:2018)**

Geotechnical investigation and testing - Laboratory testing of soil - Part 10: Direct shear tests (ISO 17892-10:2018)

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Geotechnische Erkundung und Untersuchung - Laborversuche an Bodenproben - Teil 10: Direkte Scherversuche (ISO 17892-10:2018)

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Reconnaissance et essais géotechniques - Essais de laboratoire des sols - Partie 10: Essai de cisaillement direct (ISO 17892-10:2018)

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Geotechnical investigation and testing - Laboratory testing of soil - Part 10: Direct shear tests (ISO 17892-10:2018)

Reconnaissance et essais géotechniques - Essais de
laboratoire des sols - Partie 10: Essai de cisaillement
direct (ISO 17892-10:2018)

Geotechnische Erkundung und Untersuchung -
Laborversuche an Bodenproben - Teil 10: Direkte
Scherversuche (ISO 17892-10:2018)

This European Standard was approved by CEN on 29 November 2018.

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

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European foreword

This document (EN ISO 17892-10:2018) 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of an identical text or by endorsement, at the latest by June 2019, and conflicting national standards shall be withdrawn at the latest by June 2019.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 17892-10:2004.

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.

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**Geotechnical investigation and
testing — Laboratory testing of soil —
Part 10:
Direct shear tests**

*Reconnaissance et essais géotechniques — Essais de laboratoire
des sols —*

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Partie 10: Essai de cisaillement direct
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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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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 17892-10:2004, which has been technically revised. It also incorporates the Technical Corrigendum ISO/TS 17892-10:2004/Cor 1:2006.

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

- general revision of the text and figures and addition of specimen preparation procedures;
- inclusion of two types of ring shear apparatus; Type A wherein failure occurs at the depth in the specimen defined by the split specimen container and Type B wherein the location of the failure surface is not defined by the apparatus;
- addition of [Annex A](#) on calibration, maintenance and checks;
- addition of [Annex B](#) on additional calculations for effective strength parameters.

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 effective shear strength of soils by direct shear 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 are not anticipated. It is based on international practice (see Reference [1]).

This document specifies two methods for the determination of the effective shear strength of soils under consolidated drained conditions using either a shearbox or a ring shear device.

The shearbox test is generally used for the determination of peak effective shear strength parameters of soils. The ring shear test is generally used for the determination of residual effective shear strength parameters of fine grained soils. Residual effective shear strength parameters can also be obtained from shearbox tests and peak effective shear strength parameters can also be obtained from ring shear tests.

The test method consists of placing the test specimen in the direct shear device, applying a pre-determined vertical stress, providing for draining (and wetting if required) of the test specimen, consolidating the specimen under vertical stress and then shearing the specimen. This shearing is imposed by displacing one part horizontally, relatively with respect to the other part of the specimen at a constant rate of shear-deformation. The shearing force and the horizontal and vertical displacements are measured as the specimen is sheared. Shearing is applied slowly enough to allow excess pore pressures to dissipate by drainage so that effective stresses are equal to total stresses.

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