Irish Standard
I.S. EN ISO 17892-6:2017

Geotechnical investigation and testing - Laboratory testing of soil - Part 6: Fall cone test (ISO 17892-6:2017)

I.S. EN ISO 17892-6:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

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1 Swift Square,	F +353 1 807 3838	T +353 1 857 6730
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National Foreword

I.S. EN ISO 17892-6:2017 is the adopted Irish version of the European Document EN ISO 17892-6:2017, Geotechnical investigation and testing - Laboratory testing of soil - Part 6: Fall cone test (ISO 17892-6:2017)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 17892-6

March 2017

ICS 93.020; 13.080.20

Supersedes CEN ISO/TS 17892-6:2004

English Version

Geotechnical investigation and testing - Laboratory testing of soil - Part 6: Fall cone test (ISO 17892-6:2017)

Reconnaissance et essais géotechniques - Essais de laboratoire sur les sols - Partie 6: Essai de pénétration de cône (ISO 17892-6:2017)

Geotechnische Erkundung und Untersuchung - Laborversuche an Bodenproben - Teil 6: Fallkegelversuch (ISO 17892-6:2017)

This European Standard was approved by CEN on 3 February 2017.

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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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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN ISO 17892-6:2017) has been prepared by Technical Committee CEN/TC 341 “Geotechnical Investigation and Testing”, the secretariat of which is held by BSI, in collaboration with Technical Committee ISO/TC 182 “Geotechnics”.

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of an identical text or by endorsement, at the latest by September 2017, and conflicting national standards shall be withdrawn at the latest by September 2017.

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 17892-6:2004.

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 17892-6:2017 has been approved by CEN as EN ISO 17892-6:2017 without any modification.

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INTERNATIONAL STANDARD

ISO 17892-6

First edition
2017-02

Geotechnical investigation and testing — Laboratory testing of soil —

Part 6: Fall cone test

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

Partie 6: Essai de pénétration de cône

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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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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For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

ISO 17892-6 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 17892-6:2004, which has been technically revised. It also incorporates the Technical Corrigendum ISO/TS 17892-6:2004/Cor 1:2006.

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

Introduction

This document covers areas in the field of geotechnical engineering never previously standardized 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]).

INTERNATIONAL STANDARD ISO 17892-6:2017(E)

Geotechnical investigation and testing — Laboratory testing of soil —

Part 6: Fall cone test

1 Scope

This document specifies a method of undrained strength index testing of both undisturbed and remoulded specimens of fine grained soils by the fall cone method.

This document is applicable to the laboratory estimation of undrained shear strength of a soil test specimen within the scope of geotechnical investigations.

In the fall cone test, a cone is allowed to fall with its tip towards a soil specimen, and the resulting penetration of the cone into the soil is measured. The penetration values are used to estimate the undrained shear strength. The fall cone test produces a complex shear in the test specimen, and does not represent either a vertical triaxial compression or a horizontal shear test. However, this index test may be correlated to some estimate of undrained shear strength determined in the laboratory by other test methods.

As the test is performed on a small laboratory specimen, the result may not agree with laboratory tests on larger specimens. In addition, the test specimen may not be fully representative of the soil in its natural state in the field; for example, the test specimen may not have fissures present *in situ* at a larger spacing than the specimen size.

Therefore, for the above reasons, the test can be regarded as an estimation of undrained shear strength, rather than a true measurement of it.

The ratio of the remoulded shear strength to the undisturbed shear strength may be used to estimate the sensitivity of a soil specimen. Time-dependent measurement of the shear strength may be used to assess the thixotropic regain of strength of a remoulded soil specimen.

NOTE This document fulfils the requirements of the strength index testing of soils for geotechnical investigation and testing in accordance with EN 1997–1 and EN 1997–2.

2 Normative references

The following documents are referred to in text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

ISO 17892-1, *Geotechnical investigation and testing — Laboratory testing of soil — Part 1: Determination of water content*

3 Terms and definitions

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