



NSAI
Standards

Irish Standard
I.S. EN ISO 17892-5:2017

Geotechnical investigation and testing -
Laboratory testing of soil - Part 5:
Incremental loading oedometer test (ISO
17892-5:2017)

I.S. EN ISO 17892-5:2017

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National Foreword

I.S. EN ISO 17892-5:2017 is the adopted Irish version of the European Document EN ISO 17892-5:2017, Geotechnical investigation and testing - Laboratory testing of soil - Part 5: Incremental loading oedometer test (ISO 17892-5:2017)

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EUROPEAN STANDARD

EN ISO 17892-5

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2017

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Supersedes CEN ISO/TS 17892-5:2004

English Version

**Geotechnical investigation and testing - Laboratory testing
of soil - Part 5: Incremental loading oedometer test (ISO
17892-5:2017)**

Reconnaissance et essais géotechniques - Essais de
laboratoire sur les sols - Partie 5: Essai de chargement
par palier à l'oedomètre (ISO 17892-5:2017)

Geotechnische Erkundung und Untersuchung -
Laborversuche an Bodenproben - Teil 5:
Oedometerversuch mit stufenweiser Belastung (ISO
17892-5:2017)

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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EN ISO 17892-5:2017 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 17892-5:2017) 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of an identical text or by endorsement, at the latest by September 2017, and conflicting national standards shall be withdrawn at the latest by September 2017.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 17892-5:2004.

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 17892-5:2017 has been approved by CEN as EN ISO 17892-5:2017 without any modification.

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**INTERNATIONAL
STANDARD**

**ISO
17892-5**

First edition
2017-02

**Geotechnical investigation and
testing — Laboratory testing of soil —**

Part 5:

Incremental loading oedometer test

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

Partie 5: Essai de chargement par palier à l'oedomètre



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Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols	2
5 Equipment	3
6 Test procedure	6
6.1 General.....	6
6.2 Specimen preparation.....	6
6.2.1 Selection of preparation method.....	6
6.2.2 Trimming from extruded or block sample.....	6
6.2.3 Extrusion from tube of diameter larger than the oedometer ring.....	7
6.2.4 Recompacted specimens.....	7
6.3 Measurement.....	7
6.4 Preparation of apparatus.....	7
6.4.1 Assembly of cell.....	7
6.4.2 Assembly in load frame.....	8
6.5 Loading.....	8
6.5.1 Loading sequence.....	8
6.5.2 Application of loads.....	9
6.6 Dismantling.....	9
7 Test results	10
7.1 General.....	10
7.2 Initial values.....	10
7.2.1 General.....	10
7.2.2 Initial water content.....	10
7.2.3 Initial bulk and dry density.....	10
7.3 Compressibility characteristics.....	10
7.3.1 General.....	10
7.3.2 Specimen height.....	10
7.3.3 Vertical strain.....	11
7.3.4 Void ratio.....	11
7.3.5 Compression-stress diagram.....	12
8 Test report	12
8.1 Mandatory reporting.....	12
8.2 Optional reporting.....	13
Annex A (normative) Calibration, maintenance and checks	14
Annex B (informative) Additional calculations	17
Bibliography	26

ISO 17892-5:2017(E)

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 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 17892-5 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 17892-5:2004, which has been technically revised. It also incorporates the Technical Corrigendum ISO/TS 17892-5:2004/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 international 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 practices (see Reference [\[1\]](#)).

Geotechnical investigation and testing — Laboratory testing of soil —

Part 5: Incremental loading oedometer test

1 Scope

This document specifies methods for the determination of the compressibility characteristics of soils by incremental loading in an oedometer.

This document is applicable to the laboratory determination of the compression and deformation characteristics of soil within the scope of geotechnical investigations.

The oedometer test is carried out on a cylindrical test specimen that is confined laterally by a rigid ring. The specimen is subjected to discrete increments of vertical axial loading or unloading and is allowed to drain axially from the top and bottom surfaces. Tests may be carried out on undisturbed, remoulded, recompacted or reconstituted specimens.

The stress paths and drainage conditions in foundations are generally three dimensional and differences can occur in the calculated values of both the magnitude and the rate of settlement.

The small size of the specimen generally does not adequately represent the fabric features present in natural soils.

Analysis of consolidation tests is generally based on the assumption that the soil is saturated. In case of unsaturated soils, some of the derived parameters may not be appropriate

NOTE This document fulfils the requirements of the determination of the compressibility characteristics of soils in the oedometer 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*

ISO 17892-2, *Geotechnical investigation and testing — Laboratory testing of soil — Part 2: Determination of bulk density*

ISO 17892-3, *Geotechnical investigation and testing — Laboratory testing of soil — Part 3: Determination of particle density*

3 Terms and definitions

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

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