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

**Part 7:
Unconfined compression test**

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

Partie 7: Essai de compression uniaxiale





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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 Apparatus	2
6 Test procedure	4
6.1 General requirements and equipment preparation.....	4
6.2 Preparation of specimens.....	4
6.3 Initial readings.....	5
6.4 Compression.....	5
6.5 Dismounting.....	6
7 Test results	6
7.1 Bulk density, dry density and water content.....	6
7.2 Stress and strain during compression.....	6
7.3 Unconfined compressive strength.....	6
7.4 Undrained shear strength.....	7
8 Test report	7
8.1 Mandatory reporting.....	7
8.2 Optional reporting.....	7
Annex A (normative) Calibration, maintenance and checks	8
Bibliography	10

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 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.

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 TC 182, *Geotechnics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 17892-7 cancels and replaces ISO/TS 17892-7:2004, which has been technically revised. It also incorporates the Technical Corrigendum ISO/TS 17892-7:2004/Cor 1:2006.

A list of all the 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. It is intended that this document presents broad good practice throughout the world and significant differences with national documents are not anticipated. It is based on international practice (see Reference [\[4\]](#)).

Geotechnical investigation and testing — Laboratory testing of soil —

Part 7: Unconfined compression test

1 Scope

This document specifies a method for the unconfined compression test.

This document is applicable to the determination of the unconfined compressive strength for a homogeneous specimen of undisturbed, re-compacted, remoulded or reconstituted soil under compression loading within the scope of geotechnical investigations.

This test method is useful to estimate the undrained shear strength of soil. It is noted that drainage is not prevented during this test. The estimated value for undrained shear strength is, therefore, only valid for soils of low permeability, which behave sufficiently undrained during the test.

NOTE This document fulfils the requirements of unconfined compression tests 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 the 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*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at <http://www.electropedia.org/>

— ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

unconfined compressive strength

vertical stress at *failure* (3.3) in the test

3.2

undrained shear strength

shear strength in the unconfined compression test equal to one-half of the *unconfined compressive strength* (3.1)