TECHNICAL SPECIFICATION

ISO/TS 17892-8

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Geotechnical investigation and testing — Laboratory testing of soil —

Part 8: Unconsolidated undrained triaxial test

Reconnaissance et essais géotechniques — Essais de sol au laboratoire —

Partie 8: Essai triaxial non consolidé non drainé

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Foreword

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ISO/TS 17892-8 was prepared by the European Committee for Standardization (CEN) in collaboration with Technical Committee ISO/TC 182, *Geotechnics*, Subcommittee SC 1, *Geotechnical investigation and testing*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Throughout the text of this document, read "...this European pre-Standard..." to mean "...this Technical Specification...".

ISO 17892 consists of the following parts, under the general title *Geotechnical investigation and testing — Laboratory testing of soil*:

— *Part 1: Determination of water content*

— *Part 2: Determination of density of fine-grained soil*

— *Part 3: Determination of particle density — Pycnometer method*

— *Part 4: Determination of particle size distribution*

— *Part 5: Incremental loading oedometer test*

— *Part 6: Fall cone test*

— *Part 7: Unconfined compression test on fine-grained soil*

— *Part 8: Unconsolidated undrained triaxial test*

— *Part 9: Consolidated triaxial compression tests on water-saturated soil*

— *Part 10: Direct shear tests*

— *Part 11: Determination of permeability by constant and falling head*

— *Part 12: Determination of the Atterberg limits*

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This document (CEN ISO/TS 17892-8:2004) has been prepared by Technical Committee CEN/TC 341 “Geotechnical investigation and testing”, the secretariat of which is held by DIN, in collaboration with Technical Committee ISO/TC 182 “Geotechnics”.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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— *Part 12: Determination of Atterberg limits*

Introduction

This document covers areas in the international field of geotechnical engineering never previously standardised. 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 [1]).

1 Scope

This document specifies the test method for the determination of the compressive strength of a cylindrical, water-saturated specimen of undisturbed or remoulded cohesive soil when first subjected to an isotropic stress without allowing any drainage from the specimen, and thereafter sheared under undrained conditions within the scope of the geotechnical investigations according to prEN 1997-1 and -2.

NOTE "Water-saturated" refers to the in-situ condition. The material tested need not necessarily be saturated at all stages during the laboratory testing.

2 Normative references

The following referenced documents are indispensable for the application 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.

prEN 1997-1, *Eurocode 7: Geotechnical design - Part 1: General rules*

prEN 1997-2, *Eurocode 7: Geotechnical design — Part 2: Ground investigation and testing.*

CEN ISO/TS 17892-1, *Geotechnical investigation and testing — Laboratory testing of soil — Part 1: Determination of water content (ISO/TS 17892-1:2004) .*

CEN ISO/TS 17892-2, *Geotechnical investigation and testing — Laboratory testing of soil — Part 2: Determination of density of fine grained soil (ISO/TS 17892-2:2004).*

CEN ISO/TS 17892-3, *Geotechnical investigation and testing — Laboratory testing of soils — Part 3: Determination of density of soild particles — Pycnometer method (ISO/TS 17892-3:2004)*.

3 Terms and definitions

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

3.1
failure
stress of strain condition at which failure takes place

3.2
cohesive soils
soils that behave as if they were actually cohesive, e.g. clay and clayey soils

NOTE Most soils in this group behave cohesively due to negative pore pressure and friction, and not due to cohesion.

3.3
undisturbed sample
normally sample of quality class 1 according to prEN 1997-2

NOTE If no specification for the failure state is given, failure may be considered to occur at the peak deviator stress.

4 Symbols

ε_1 vertical strain during shearing.

σ_3 minor principal stress or cell pressure.

σ major principal stress or vertical stress.