



National Standards Authority of Ireland

IRISH STANDARD

I.S. CEN ISO/TS 17892-4:2004

ICS 13.080.20
93.020

National Standards
Authority of Ireland
Dublin 9
Ireland

Tel: (01) 807 3800
Fax: (01) 807 3838

**GEOTECHNICAL INVESTIGATION AND
TESTING - LABORATORY TESTING OF SOIL -
PART 4: DETERMINATION OF PARTICLE SIZE
DISTRIBUTION (ISO/TS 17892-4:2004)**

*This Irish Standard was
published under the
authority of the National
Standards Authority of
Ireland
and comes into effect on:
December 17, 2004*

**NO COPYING WITHOUT NSAI
PERMISSION EXCEPT AS
PERMITTED BY COPYRIGHT
LAW**

© NSAI 2004

Price Code

Údarás um Chaighdeáin Náisiúnta na hÉireann

TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN ISO/TS 17892-4

October 2004

ICS 13.080.20; 93.020

English version

**Geotechnical investigation and testing - Laboratory testing of
soil - Part 4: Determination of particle size distribution (ISO/TS
17892-4:2004)**

Reconnaissance et essais géotechniques - Essais de sol
au laboratoire - Partie 4: Détermination de la granulométrie
(ISO/TS 17892-4:2004)

Geotechnische Erkundung und Untersuchung -
Laborversuche an Bodenproben - Teil 4: Bestimmung der
Korngrößenverteilung (ISO/TS 17892-4:2004)

This Technical Specification (CEN/TS) was approved by CEN on 2 December 2003 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of 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.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

CEN ISO/TS 17892-4:2004 (E)

Contents

Foreword..... 3

1 Scope 5

2 Normative references 5

3 Terms and definitions 6

4 Equipment 6

4.1 General..... 6

4.2 Sieving 7

4.3 Hydrometer method..... 7

5 Test procedure 10

5.1 Selection of test method 10

5.2 Sieving 10

5.3 Hydrometer analysis 15

6 Test results 21

6.1 Sieving 21

6.2 Hydrometer..... 21

6.3 Pipette method 23

7 Test report 24

Annex A (informative) Calibration of hydrometer 26

A.1 Volume calibration..... 26

A.2 Scale calibration 26

A.3 Meniscus correction..... 27

Annex B (informative) Calibration of hydrometer 29

B.1 Pretreatment for organic material 29

B.2 Pretreatment for carbonate material..... 29

B.3 Final pretreatment stage 29

Bibliography 30

Tables

Table 1 — Minimum mass required for sieving as a function of particle diameter D_{90} 12

Table 2 — Maximum mass of soil retained on each sieve..... 14

Table 3 — Dry mass of soil specimen for sedimentation test..... 17

Table 4 — Insertion depth of pipette..... 20

Table 5 — Dynamic viscosity of water..... 23

Table A.1 — Temperature correction..... 28

Figures

Figure 1 — Example of pipette configuration 9

Figure 2 — Sieving procedure 11

Figure 3 — General procedure for sedimentation 16

Figure 4 — Example of a particle size distribution result..... 25

Figure A.1 — Example of calibration of hydrometer scale 27

Foreword

This document (CEN ISO/TS 17892-4:2004) 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.

CEN ISO/TS 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 grain soils
- Part 8: Unconsolidated undrained triaxial test
- Part 9: Consolidated triaxial compression tests on water saturated soils
- Part 10: Direct shear tests
- Part 11: Determination of permeability by constant and falling head
- Part 12: Determination of the Atterberg limits

CEN ISO/TS 17892-4:2004 (E)

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]).

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-