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BS 1377-2 — Methods of test for soils for civil engineering purposes

Part 2: Classification tests and determination of geotechnical properties

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Summary of pages
This document comprises a front cover, an inside front cover, pages I to VI, pages 1 to 148, an inside back cover and a back cover.

Foreword

Publishing information

This part of BS 1377 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 March 2022. It was prepared by Subcommittee B/526/3, *Ground investigation and ground testing*, under the authority of Technical Committee B/526, *Geotechnics*. A list of organizations represented on these committees can be obtained on request to their committee manager.

Supersession

This part of BS 1377 supersedes BS 1377-2:1990, BS 1377-4:1990, BS 1377-5:1990, BS 1377-6:1990 and BS 1377-7:1990, which are withdrawn.

Relationship with other publications

BS 1377 is published in the following parts:

- Part 1: *General requirements and sample preparation*
- Part 2: *Classification tests and determination of geotechnical properties (this document)*
- Part 3: *Chemical and electrochemical tests*
- Part 9: *In-situ tests*

BS 1377-1 provides general information relating to the tests, common calibration and specification requirements and general requirements for testing laboratories and fieldwork. This information is required for tests for which no BS EN ISO standard is available. BS EN ISO 17892 standards include specific requirements for sample preparation, equipment maintenance and calibration for each test which take precedence.

BS 1377-3 describes test methods for determining the amount of chemical substances in soil and groundwater.

This part of BS 1377 includes reference to BS EN ISO 17892 (all parts) for the relevant test and provides non-contradictory complementary information on the test methods.

Information about this document

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

This part of BS 1377 consolidates the tests included in BS 1377-2:1990, BS 1377-4:1990, BS 1377-5:1990, BS 1377-6:1990 and BS 1377-7:1990 into one document as follows:

- BS 1377-2:1990, Part 2: Classification tests
- BS 1377-4:1990, Part 4: Compaction-related tests
- BS 1377-5:1990, Part 5: Compressibility, permeability and durability tests
- BS 1377-6:1990, Part 6: Consolidation and permeability tests in hydraulic cells and with pore pressure measurement

- BS 1377-7:1990, Part 7: Shear strength tests (total stress)
- BS 1377-8:1990, Part 8: Shear strength tests (effective stress)

The following tests that were included in BS 1377:1990 have been withdrawn:

BS 1377-2:1990, Clause 6.3 Volumetric shrinkage test (definitive method)

BS 1377-2:1990, Clause 6.4 Volumetric shrinkage test (subsidiary method)

BS 1377-7:1990, Clause 9 Multistage unconsolidated undrained triaxial test

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its methods are expressed as a set of instructions, a description, or in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. "organization" rather than "organisation").

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1 Scope

This part of BS 1377 specifies methods of test for the classification of soil and for the determination of geotechnical properties of soils in the laboratory.

Most of these tests are required for the determination of geotechnical behaviour of soils in accordance with BS EN 1997 (all parts) and BS 5930.

This part of BS 1377 includes:

a) common laboratory tests required for the classification of soils;

b) determination of compaction characteristics of soils for earthworks, permeability, compressibility and erodibility; and

c) determination of shear strength of soils in terms of both total and effective stresses.

NOTE Where EN ISO test methods are available, these are normatively referenced and commentary provided to assist in their application.

BS 1377-1 specifies requirements that include details of sample preparation and equipment calibration that are relevant to tests described in this part of BS 1377, unless otherwise detailed in the referenced BS EN ISO 17892 standard.

2 Normative references

BS 1377-1:2016, *Methods of test for soils for civil engineering purposes – Part 1: General requirements and sample preparation*

BS 812-124:2009, *Testing aggregates – Part 124: Method for determination of frost heave*

BS EN ISO 17892-1:2014, *Geotechnical investigation and testing – Laboratory testing of soil – Part 1: Determination of water content*

BS EN ISO 17892-2:2014, *Geotechnical investigation and testing – Laboratory testing of soil – Part 2: Determination of bulk density*

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

BS EN ISO 17892-4:2016, *Geotechnical investigation and testing – Laboratory testing of soil – Part 4: Determination of particle size distribution*

BS EN ISO 17892-5:2017, *Geotechnical investigation and testing – Laboratory testing of soil – Part 5: Incremental loading oedometer test*

BS EN ISO 17892-7:2018, *Geotechnical investigation and testing – Laboratory testing of soil – Part 7: Unconfined compression test*

BS EN ISO 17892-8:2018, *Geotechnical investigation and testing – Laboratory testing of soil – Part 8: Unconsolidated undrained triaxial test*

BS EN ISO 17892-9:2018, *Geotechnical investigation and testing – Laboratory testing of soil – Part 9: Consolidated triaxial compression tests on water saturated soils*

BS EN ISO 17892-10:2018, *Geotechnical investigation and testing – Laboratory testing of soil – Part 10: Direct shear tests*

BS EN ISO 17892-11, *Geotechnical investigation and testing – Laboratory testing of soil – Part 11: Permeability tests*

