

NA to BS EN 1997-2:2007



BSI Standards Publication

UK National Annex to Eurocode 7: Geotechnical design – Part 2: Ground investigation and testing

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Summary of pages

This document comprises a front cover, an inside front cover, pages 1 to 12, an inside back cover and a back cover.

Introduction

This National Annex has been prepared by Subcommittee B/526/3, *Site investigation and ground testing*. In the UK, it is to be used in conjunction with BS EN 1997-2:2007, *Eurocode 7 – Geotechnical design – Part 2: Ground investigation and testing*.

NA.1 Scope

There are no Nationally Determined Parameters in BS EN 1997-2:2007. This National Annex contains all the information concerning the application of BS EN 1997-2:2007 in the UK.

This National Annex gives:

- a) the UK decisions on the status of BS EN 1997-2:2007 informative annexes; and
- b) references to non-contradictory complementary information.

NA.2 Nationally Determined Parameters

There are no Nationally Determined Parameters.

BS EN 1997-2:2007 covers the planning, carrying out and reporting of site investigations. It should be read together with complementary documents such as BS 5930:1999+A1 and BS 1377 (Parts 1 to 9) throughout.

CEN ISO/TS are Technical Specification documents and are not formal standards.

The methods described in DD CEN ISO/TS 22475-2 and DD CEN ISO/TS 22475-3 should be followed in UK practice (see BS EN 1997-2:2007, Note to 1.2).

In the UK, laboratory tests should continue to be carried out using parts of BS 1377. DD CEN ISO/TS 17892-6 is the only laboratory test TS to be used in the UK; the other CEN ISO/TS 17892 parts are not implemented in the UK. See Table NA.1 for the part of BS 1377 to be used where CEN ISO/TS 17892 is informatively referenced in BS EN 1997-2:2007.

This National Annex does not include a comprehensive cross-referencing or comparison with the national standards.

Before designing the investigation programme, the available information and documents should be evaluated in a desk study which should also use experience in the same or similar geology from elsewhere. A desk study is required in the planning of every investigation, but the size and extent of the desk study will vary according to the project and the anticipated ground conditions.

The minimum number of laboratory tests to be carried out on a project is suggested in the BS EN 1997-2:2007 annexes. The number of tests should only be reduced on the basis of precedent experience; this experience should be included in the ground investigation report (GIR).

Table NA.1 BS EN 1997-2:2007 Section 5 cross-references to Parts of CEN ISO/TS 17892

BS EN 1997-2:2007 subclause	Reference in BS EN 1997-2:2007	Reference to be used in UK
5.5.1 (1) Note	BS EN 1997-2:2007 Annex M	See UK note to Annex M in NA.3.14 .
5.5.3.1 (3) Note	CEN ISO/TS 17892-1	Use BS 1377-2:1990+A1, Clause 3
5.5.4.1 (3) Note	CEN ISO/TS 17892-2	Use BS 1377-2:1990+A1, Clause 7
5.5.5.1 (2) Note	CEN ISO/TS 17892-3	Use BS 1377-2:1990+A1, Clause 8
5.5.6.1 (1) Note	CEN ISO/TS 17892-4	Use BS 1377-2:1990+A1, Clause 9
5.5.7.1 (5) Note	CEN ISO/TS 17892-12	Use BS 1377-2:1990+A1, Clause 5
5.8.4.1 (2) Note	CEN ISO/TS 17892-7	Use BS 1377-7:1990+A1, Clause 7
5.8.5.1 (3) Note	CEN ISO/TS 17892-8	Use BS 1377-7:1990+A1, Clause 8
5.8.6.1 (1) Note	CEN ISO/TS 17892-9	Use BS 1377-8:1990+A1, all Clauses
5.8.7.1 (1) Note	CEN ISO/TS 17892-10	Use BS 1377-7:1990+A1, Clause 4
5.9.2.2 (7) Note 1	CEN ISO/TS 17892-5	Use BS 1377-5:1990+A1, Clause 3

NA.3 Decisions on the status of informative annexes

NA.3.1 General comments

Examples of the application of test results to design are given in the annexes in BS EN 1997-2:2007. These correlations and design proposals are of interest as background and may be used. Alternative correlations and design procedures may also be used. The results from a range of tests can be used in deriving parameters and for input to design as appropriate to the site, the ground conditions and the engineering problem. The derivation of parameters from test results should be explained in the GIR. Justification of how the test results and derived values are used in design should be provided in the geotechnical design report (GDR).

Notes within the main text of BS EN 1997-2:2007 referring to annexes should be read in conjunction with the decisions in **NA.3.2** to **NA.3.25**.

NA.3.2 List of test results of geotechnical test standards, BS EN 1997-2:2007, Annex A

Annex A may be used.

NA.3.3 Planning of geotechnical investigations, BS EN 1997-2:2007, Annex B

Annex B may be used in conjunction with the following paragraph.

The recommendations of Annex B are not exhaustive and should be treated as a minimum. Relaxation of this guidance is only possible where there is sufficient previous knowledge of the ground conditions at the site or in the geological formation. The previous knowledge used in making this decision should be reported in the GIR.

NA.3.4 Example of groundwater pressure derivations based on a model and long term measurements, BS EN 1997-2:2007, Annex C

Annex C should not be used. Investigations of groundwater conditions should be carried out in accordance with BS EN ISO 22475-1.

NA.3.5 Cone and piezocone penetration tests, BS EN 1997-2:2007, Annex D

Annex D may be used subject to the general comments of **NA.3.1**.

As the new European and international standards for cone penetration test (CPT) and piezocone penetration test (CPTU) are yet to be published, testing should be carried out in accordance with BS 1377-9:1990+A2 and BS 5930:1999+A1, **26.3.3** and international test procedures (ISSMGE) [1].

A more detailed review of the use of CPT/CPTU can be found in Lunne et al [2].

NA.3.6 Pressuremeter test, BS EN 1997-2:2007, Annex E

Annex E may be used, but is only applicable to the Ménard pressuremeter and subject to the general comments of **NA.3.1**.

As the new European and international standards for the various pressuremeter types are yet to be published, the guidance in BS 5930:1999+A1, **25.7** may be used.

More details on the use of pressuremeters are given in Clark [3] and Baguelin et al [4].

NA.3.7 Standard penetration test, BS EN 1997-2:2007, Annex F

Annex F may be used subject to the general comments of **NA.3.1**.

The results of standard penetration tests (SPTs) should be included in borehole records without the application of corrections.

Relative density descriptions on borehole records should also be based on uncorrected SPT N values, unless significantly disturbed, using the density classification in BS 5930:1999+A1, Table 13.

More details on the testing technique are given in BS 5930:1999+A1 and Hepton and Gosling [5] and on the use of test results in Clayton [6].

NOTE It is recognized that it is difficult to measure the straightness of the rods to the tolerance needed. Rolling the rods on a flat surface will highlight any deflection that is likely to affect their acceptability. It is necessary to use the best available method to measure the straightness and record which method has been used.

NA.3.8 Dynamic probing test, BS EN 1997-2:2007, Annex G

Annex G may be used subject to the general comments of **NA.3.1**.

The correlations given have not been proven in UK conditions.

NA.3.9 Weight sounding test, BS EN 1997-2:2007, Annex H

Annex H should not be used.