October 2010

DIN EN 1997-2

DIN

ICS 91.010.30; 93.020

Supersedes: see below

Eurocode 7: Geotechnical design – Part 2: Ground investigation and testing (includes Corrigendum AC:2010) English translation of DIN EN 1997-2:2010-10

Eurocode 7: Entwurf, Berechnung und Bemessung in der Geotechnik –
Teil 2: Erkundung und Untersuchung des Baugrunds
(enthält Berichtigung AC:2010)
Englische Übersetzung von DIN EN 1997-2:2010-10

Eurocode 7: Calcul géotechnique –
Partie 2: Reconnaissance des terrains et essais
(Corrigendum AC:2010 inclus)
Traduction anglaise de DIN EN 1997-2:2010-10

Supersedes DIN EN 1997-2:2007-10, DIN V ENV 1997-2:1999-09, withdrawn 2007-10,
DIN V ENV 1997-3:1999-10 and withdrawn 2007-10;
partially supersedes DIN 4020:2003-09

Document comprises 198 pages

Translation by DIN-Sprachendienst.
In case of doubt, the German-language original shall be considered authoritative.

12.10 1725788

A comma is used as the decimal marker.

National foreword

This standard has been prepared by Technical Committee CEN/TC 250 “Structural Eurocodes”, Subcommittee SC 7 “Eurocode 7 — Geotechnical design” (Secretariat: NEN, Netherlands).

The responsible German body involved in its preparation was the *Normenausschuss Bauwesen* (Building and Civil Engineering Standards Committee), Working Committee NA 005-05-06 AA *Untersuchungen von Boden und Fels.*

This European Standard is part of a series of standards dealing with structural design (Eurocodes) which are intended to be used as a “package”. In Guidance Paper L on the application and use of Eurocodes, issued by the EU Commission, reference is made to transitional periods for the introduction of the Eurocodes in the Member states. The transitional periods are given in the Foreword of this standard. A national Annex will be prepared in the course of the transitional periods.

The scope of DIN EN 1997-2 has been largely aligned with that of DIN 4020. Therefore, DIN 4020 will be revised in parallel with the preparation of the national Annex.

This document includes European Corrigendum EN 1997-2:2007/AC:2010.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ▌AC〉 〈AC▌.

Amendments

This standard differs from DIN V ENV 1997-2:1999-09, DIN V ENV 1997-3:1999-10 and DIN 4020:2003-09 as follows:

a) DIN V ENV 1997-2:1999-09 and DIN V ENV 1997-3:1999-10 have been combined and restructured;

b) parts of DIN 4020:2003-09, especially Annex B, have been included.

c) a new Annex A has been included;

d) Clause 6 “Ground investigation report” has been included;

e) the standard has been editorially revised.

Based on European Corrigendum EN 1997-2:2007/AC:2010, the following corrections have been made to the German version of DIN EN 1997-2:2007-10:

f) text, figures and tables have been corrected;

g) in Subclause 1.8, English abbreviations have been added;

h) in Subclauses 2.4.1.3 and 4.3.4.1, some corrections to the German translation have been made.

Previous editions

DIN 4020: 1953-07, 1990-10, 2003-09
DIN V ENV 1997-2: 1999-09
DIN V ENV 1997-3: 1999-10
DIN EN 1997-2: 2007-10

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1997-2

March 2007

+ AC

June 2010

ICS 91.060.01; 91.120.20

English version

Eurocode 7: Geotechnical design — Part 2: Ground investigation and testing

Eurocode 7: Calcul géotechnique — Partie 2: Reconnaissance des terrains et essais

Eurocode 7: Entwurf, Berechnung und Bemessung in der Geotechnik — Teil 2: Erkundung und Untersuchung des Baugrunds

EN 1997-2:2007 was approved by CEN on 2006-06-12 and Corrigendum AC on 2010-06-02.

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

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

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Foreword

This document (EN 1997-2: 2007) has been prepared by Technical Committee CEN/TC 250 "Structural Eurocodes", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2007, and conflicting national standards shall be withdrawn at the latest by March 2010.

This document supersedes ENV 1997-2:1999 and ENV 1997-3:1999.

CEN/TC 250 is responsible for all Structural Eurocodes.

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

Background of the Eurocode programme

In 1975, the Commission of the European Community decided on an action programme in the field of construction, based on article 95 of the Treaty. The objective of the programme was the elimination of technical obstacles to trade and the harmonization of technical specifications.

Within this action programme, the Commission took the initiative to establish a set of harmonised technical rules for the design of construction works, which, in a first stage, would serve as an alternative to the national rules in force in the Member States and, ultimately, would replace them.

For fifteen years, the Commission, with the help of a Steering Committee with representatives of Member States, conducted the development of the Eurocodes programme, which led to the first generation of European codes in the 1980s.

In 1989, the Commission and the Member States of the EU and EFTA decided, on the basis of an agreement[1] between the Commission and CEN, to transfer the preparation and the publication of the Eurocodes to CEN through a series of Mandates, in order to provide them with a future status of European Standard (EN). This links *de facto* the Eurocodes with the provisions of all the Council's Directives and/or Commission's Decisions dealing with European standards (e.g. the Council Directive 89/106/EEC on construction products - CPD - and Council Directives 93/37/EEC, 92/50/EEC and 89/440/EEC on public works and services and equivalent EFTA Directives initiated in pursuit of setting up the internal market).

The Structural Eurocode programme comprises the following standards generally consisting of a number of Parts:

EN 1990	Eurocode :	Basis of Structural Design
EN 1991	Eurocode 1:	Actions on structures

1 Agreement between the Commission of the European Communities and the European Committee for Standardization (CEN) concerning the work on EUROCODES for the design of building and civil engineering works (BC/CEN/03/89).

EN 1992	Eurocode 2:	Design of concrete structures
EN 1993	Eurocode 3:	Design of steel structures
EN 1994	Eurocode 4:	Design of composite steel and concrete structures
EN 1995	Eurocode 5:	Design of timber structures
EN 1996	Eurocode 6:	Design of masonry structures
EN 1997	Eurocode 7:	Geotechnical design
EN 1998	Eurocode 8:	Design of structures for earthquake resistance
EN 1999	Eurocode 9:	Design of aluminium structures

Eurocode standards recognise the responsibility of regulatory authorities in each Member State and have safeguarded their right to determine values related to regulatory safety matters at national level where these continue to vary from State to State.

Status and field of application of Eurocodes

The Member States of the EU and EFTA recognise that Eurocodes serve as reference documents for the following purposes:

— as a means to prove compliance of building and civil engineering works with the essential requirements of Council Directive 89/106/EEC, particularly Essential Requirement N°1 – Mechanical resistance and stability – and Essential Requirement N°2 – Safety in case of fire;
— as a basis for specifying contracts for construction works and related engineering services;
— as a framework for drawing up harmonised technical specifications for construction products (ENs and ETAs).

The Eurocodes, as far as they concern the construction works themselves, have a direct relationship with the Interpretative Documents[2] referred to in Article 12 of the CPD, although they are of a different nature from harmonised product standards[3]. Therefore, technical aspects arising from the Eurocodes work need to be adequately considered by CEN Technical Committees and/or EOTA Working Groups working on product standards with a view to achieving full compatibility of these technical specifications with the Eurocodes.

The Eurocode standards provide common structural design rules for everyday use for the design of whole structures and component products of both a traditional and an innovative nature. Unusual forms of construction or design conditions are not specifically covered and additional expert consideration will be required by the designer in such cases.

2 According to Art. 3.3 of the CPD, the essential requirements (ERs) shall be given concrete form in interpretative documents for the creation of the necessary links between the essential requirements and the mandates for harmonised ENs and ETAGs/ETAs.

3 According to Art. 12 of the CPD the interpretative documents shall :
a) give concrete form to the essential requirements by harmonising the terminology and the technical bases and indicating classes or levels for each requirement where necessary ;
b) indicate methods of correlating these classes or levels of requirement with the technical specifications, e.g. methods of calculation and of proof, technical rules for project design, etc. ;
c) serve as a reference for the establishment of harmonised standards and guidelines for European technical approvals.
The Eurocodes, *de facto*, play a similar role in the field of the ER 1 and a part of ER 2.