BS 8006-1:2010

Incorporating Corrigendum No. 1

BSI Standards Publication

Code of practice for strengthened/reinforced soils and other fills

raising standards worldwide™

Publishing and copyright information
The BSI copyright notice displayed in this document indicates when the document was last issued.

Published by BSI Standards Limited 2012

ISBN 978 0 580 78399 9

ICS 93.020

The following BSI references relate to the work on this standard:
Committee reference B/526/4
Draft for comment 09/30093258 DC

Publication history
First published October 2010

Amendments issued since publication

Date	Text affected
30 June 2012	C1: See foreword

Contents

List of tables

Summary of pages

This document comprises a front cover, an inside front cover, pages i to vi, pages 1 to 250, an inside back cover and a back cover.

Foreword

Publishing information

This part of BS 8006 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 October 2010. It was prepared by Subcommittee B/526/4, *Strengthened/reinforced soils and other fills*, under the authority of B/526, *Geotechnics*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

Together with BS 8006-2, this part of BS 8006 supersedes BS 8006:1995, which is withdrawn.

Relationship with other publications

The use of reinforcement in soils has become an accepted technique for the construction of retaining walls, steep slopes and basal strengthening. This code of practice has been revised and updated to include information about new methods of soil reinforcement and to bring the document in line with BS EN 1997-1:2004, NA to EN 1997-1:2004 and BS EN 14475:2006. Reinforced soil techniques are now used extensively for a range of design lives and service requirements and are still in an active stage of development, particularly as far as the use of polymeric materials is concerned.

Information about this document

The start and finish of text introduced or altered by Corrigendum No. 1 is indicated in the text by tags ⟦C1⟩ ⟨C1⟧.

Use of this document

This code of practice embodies the experience of engineers successfully engaged on the design and construction of the particular class of works. It has been assumed in the drafting of this British Standard that the execution of its provisions is entrusted to appropriately qualified and experienced people.

A code of practice represents good practice at the time it is written and, inevitably, technical developments will render parts of it obsolescent in time. It is the responsibility of engineers concerned with the design and construction of works to remain conversant with developments in good practice, which have taken place since publication of the code.

As a code of practice, this part of BS 8006 takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this part of BS 8006 is expected to be able to justify any course of action that deviates from its recommendations.

Presentational conventions

The provisions in this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

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

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Section 1: General

1.1 Scope

This British Standard contains recommendations and guidance for the application of reinforcement techniques to soils, as fill or in situ, and to other fills. The standard is written in a limit state format and guidelines are provided in terms of partial material factors and load factors for various applications and design lives.

This code is to be read in conjunction with BS EN 1997-1:2004, NA to BS EN 1997-1:2004 and BS EN 14475:2006.

BS EN 1997-1:2004 does not cover the design and execution of reinforced soil structures. The values of partial factors and load factors given in BS EN 1997-1:2004 have not been calibrated for reinforced soil structures. BS EN 1997-1:2004 is not for use in the design and execution of reinforced soil. The partial factors set out in BS 8006-1 cannot be replaced by similar factors in BS EN 1997-1:2004.

The code is divided into eight sections. Section **1** identifies the scope, definitions and notation of the code. Section **2** describes the concepts and fundamental principles of reinforced soil. Section **3** provides recommendations for the use of materials where existing standards are available. Where materials are used that are not covered by existing standards or where known materials are to be used in ways not covered by existing standards Section **4** gives recommendations for the testing and approval of such materials.

Sections **5** to **8** relate to design, construction and maintenance of walls and abutments, slopes and foundations. They include specific recommendations for characterization of the soils to be used and other factors affecting the design and performance of the structures. Emphasis is placed on quality control both with regard to the consistency of the properties of the fill and reinforcing materials and to the handling of the materials on site.

In line with current practice the design methods described are based on limit state principles. The partial factors included are based on previous experience and have been calibrated to maintain consistency with current practice.

The clauses are supplemented by a substantial list of references to enable the user to consider in greater depth the applications of the technique.

1.2 Normative references

The following referenced documents are indispensible 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.

BS 1377-3, *Methods of test for soils for civil engineering purposes – Chemical and electro-chemical tests*

BS 1377-7, *Methods of test for soils for civil engineering purposes – Shear strength tests (total stress)*

BS 1377-8, *Methods of test for soils for civil engineering purposes – Shear strength tests (effective stress)*