

BS 8004:2015



BSI Standards Publication

Code of practice for foundations

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Contents

Foreword *ii*

1	Scope	1
2	Normative references	1
3	Terms and definitions	5
4	General rules	6
5	Spread foundations	35
6	Pile foundations	46

Annexes

Annex A (normative)	Helical steel pile foundations	88
Annex B (normative)	Underpinning	92
Annex C (informative)	Specific formations	96
Annex D (informative)	Archaeological finds	98

Bibliography 99

List of figures

Figure 1	Suggested values for characteristic weight density of soils above the groundwater table	14
Figure 2	Suggested values for characteristic weight density of soils below the groundwater table	15
Figure 3	Stiffness parameters for non-linear soil	21
Figure 4	Calculation model for downdrag	64

List of tables

Table 1	Values of ϕ'_{angr} , ϕ'_{PSD} and ϕ'_{dil} to obtain values of $\phi'_{pk,k}$ and $\phi'_{cv,k}$ for siliceous sands and gravels with fines content not exceeding 15%	17
Table 2	Values of $\phi'_{cv,k}$ for fine soils from plasticity index	19
Table 3	Values of parameters for use with equation (12)	22
Table 4	Values of parameters for use with equation (13)	23
Table 5	Use classes relevant to timber in foundations	28
Table 6	Some key features of spread foundations	35
Table 7	Classification of piles according to ground disturbance caused by installation	47
Table 8	Suggested values of K_s for piles installed in coarse silica soils	52
Table 9	Suggested values of k_0 for piles installed in coarse soils	53
Table 10	Suggested values of k_2 for piles installed in fine soil	56
Table 11	Values of the empirical coefficients c_s and $c_{b,0.1}$ according to soil and pile type	59
Table 12	Values of the empirical coefficients n_s and $n_{b,0.1}$ according to soil and pile type	60
Table 13	Suggested values of the coefficients k_1 to k_4 for piles installed in rocks	66
Table 14	Design pile diameter for cast-in-place piles without permanent casing	81

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 106, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 June 2015. It was prepared by Technical Committee B/526, *Geotechnics*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

Together with BS EN 1997-1:2004+A1:2013, this British Standard supersedes BS 8004:1986, which is withdrawn.

Relationship with other publications

BS 8004 gives non-contradictory, complementary information for use with BS EN 1997 and its National Annexes.

Information about this document

This is a full revision of the standard, which introduces the following principal changes:

- the revised text is fully compatible with the current version of Eurocode 7 (BS EN 1997);
- guidance is given on designing foundations according to limit state principles using partial factors;
- guidance is given on the selection of design parameters for soils;
- guidance is given on the calculation of ultimate bearing resistance of shallow foundations;
- guidance is given on the design of pile foundations by calculation and by testing;
- the revised text reflects advances in foundation technology over the past 30 years.

Use of this document

As a code of practice, this British Standard 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 British Standard is expected to be able to justify any course of action that deviates from its recommendations.

Presentational conventions

The provisions of 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.

The word "should" is used to express recommendations of this standard. The word "may" is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the clause. The word "can" is used to express possibility, e.g. a consequence of an action or an event.

Notes and commentaries are provided throughout the text of this standard. Notes give references and additional information that are important but do not form part of the recommendations. Commentaries give background information.

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.

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1 Scope

This British Standard gives recommendations for the design and construction of foundations for the normal range of buildings and engineering structures. It provides non-contradictory, complementary information for use in conjunction with BS EN 1997 and its UK National Annex.

Clause 4 gives general recommendations for the design and construction of all types of foundations; Clause 5 and Clause 6 give specific recommendations for the design and construction of spread foundations and pile foundations (respectively).

Annex A gives specific recommendations for the design and construction of helical steel piles.

Annex B gives specific recommendations for the design and construction of underpinning.

Annex C gives information about specific geological formations encountered in the UK.

Annex D gives information about the UK Government's policy regarding archaeological finds.

NOTE 1 This standard does not cover the design and construction of earthworks, for which see BS 6031.

NOTE 2 This standard does not cover the design and construction of earth retaining structures, for which see BS 8002.

NOTE 3 This standard does not cover the design and construction of maritime works, for which see BS 6349.

NOTE 4 For non-industrial structures of not more than four storeys, see BS 8103-1.

NOTE 5 This standard does not cover the design and construction of foundations for reciprocating machinery.

NOTE 6 This standard does not cover the design and construction of offshore foundations, for which see BS EN ISO 19901-4.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 67, *Specification for vitrified clay pipes, fittings and ducts, also flexible mechanical joints for use solely with surface water pipes and fittings*

BS 437, *Specification for cast iron drain pipes, fittings and their joints for socketed and socketless systems*

BS 1852-1, *Plastics piping systems for non-pressure underground drainage and sewerage – Polypropylene (PP) – Part 1: Specifications for pipes, fittings and the system*

BS 4449, *Steel for the reinforcement of concrete – Weldable reinforcing steel – Bar, coil and decoiled product – Specification*

BS 4660, *Thermoplastics ancillary fittings of nominal sizes 110 and 160 for below ground gravity drainage and sewerage*

BS 4729, *Clay and calcium silicate bricks of special shapes and sizes – Recommendations*

BS 4962, *Specification for plastics pipes and fittings for use as subsoil field drains*