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BSI Standards Publication

**Recommendations for the design of
structures subject to traffic loading to
BS EN 1997-1:2004+A1:2013**

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Foreword

Publishing information

This Published Document is published by BSI Standards Limited, under licence from The British Standards Institution and came into effect on 31 May 2011. It was prepared under the authority of B/526, *Geotechnics*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

PD 6694-1:2011+A1:2020 supersedes PD 6694-1:2011, which is withdrawn.

Relationship with other publications

This Published Document gives non-contradictory complementary information for the design of structures subject to traffic loading for use in the UK with BS EN 1997-1 for geotechnical design and its UK National Annex. Background is provided to some of the National Annex provisions where these differ from the values recommended in BS EN 1997-1.

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Presentation conventions

The provisions in this Published Document 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 Published Document. 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 Published Document. Notes give references and additional information that are important but do not form part of the recommendations. Commentaries give background information.

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

As a UK Published Document, these presentational conventions are in accordance with BS 0 and national British Standard drafting rules. Therefore, the conventions might differ from the Eurocode that this Published Document supports.

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0 Introduction

BS EN 1997-1 sets out principles and requirements for the geotechnical design of structures, but in many cases it does not identify specific requirements for particular structure types. This document provides non-contradictory complementary information relating to the design of structures subject to traffic loading to accompany BS EN 1997-1.

1 Scope

This document covers some geotechnical aspects of bridges and other structures subject to traffic loading designed to BS EN 1997-1 and other relevant Eurocodes. The document includes information relating to the design of:

- spread foundations;
- piled foundations;
- gravity retaining walls;
- embedded retaining walls;
- integral bridges; and
- buried concrete structures.

It does not cover the design of reinforced soils.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions of this document. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS EN 1990:2002+A1:2005, *Eurocode – Basis of structural design*¹⁾

[BS EN 1991](#), *Eurocode 1 – Actions on structures*

BS EN 1991-1-5, *Eurocode 1 – Actions on structures – Part 1-5: General actions – Thermal actions*

BS EN 1991-2:2003, *Eurocode 1 – Actions on structures – Part 2: Traffic loads on bridges*

BS EN 1992-2, *Eurocode 2 – Design of concrete structures – Part 2: Concrete bridges – Design and detailing rules*

BS EN 1997-1:2008+A1:2013, *Eurocode 7 – Geotechnical design – Part 1: General rules*

NA to BS EN 1990:2002+A1:2005, *UK National Annex for Eurocode – Basis of structural design*

NA to BS EN 1991-1-5, *UK National Annex to Eurocode 1 – Actions on structures – Part 1-5: General actions – Thermal actions*

NA to BS EN 1991-2:2003, *UK National Annex to Eurocode 1 – Actions on structures – Part 2: Traffic loads on bridges*

NA+A1:2014 to BS EN 1997-1+A1:2013, *UK National Annex to Eurocode 7 – Geotechnical design – Part 1: General rule*

¹⁾ Informative references are made to the dated version.