PD 6547:2023

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Guidance on the use of BS EN 40-3-1 and BS EN 40-3-3

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Contents

Summary of pages
This document comprises a front cover, an inside front cover, pages I to IV, pages 1 to 71, an inside back cover and a back cover.

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 December 2023. It was prepared by Subcommittee B/509/50, *Street lighting columns*, under the authority of Technical Committee B/509, *Road equipment*. A list of organizations represented on these committees can be obtained on request to the committee manager.

Supersession

PD 6547:2023 supersedes PD 6547:2004+A1:2009, which is withdrawn.

Relationship with other publications

This Published Document gives non-contradictory, complementary information for use in the UK with BS EN 40-3-1 and BS EN 40-3-3.

Information about this document

This is a full revision of the document, and introduces the following principal changes:

- corrections to R_{wf} table in Annex B;
- addition of a standard flange plate design method;
- addition of a fatigue assessment method for steel products;
- guidance on future proofing lighting columns for Smart Cities and Internet of Things (IoT);
- guidance on typical weight and wind areas for different lighting column attachments;
- considerations when retrofitting attachments to lighting columns;
- considerations when retrofitting lighting columns for electric vehicle (EV) charging points;
- explanation of the original derivation of the R_{wf} values;
- guidance and figures showing various typical foundations arrangements;
- introduction of the *Andrée and Norsa* method of design for foundations for lighting columns; and
- structural assessment of cable slots.

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Use of this document

As a guide, this Published Document takes the form of guidance and recommendations. It should not be quoted as if it were a specification or a code of practice.

Presentational conventions

The guidance in this standard is presented in roman (i.e. upright) type. Any 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.

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

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1 Scope

This Published Document gives guidance and background information to specifiers and manufacturers of lighting columns on the use of BS EN 40-3-1 and BS EN 40-3-3, which specify the design of lighting columns. In particular, it gives guidance on the information which the specifier is required to give to the manufacturer to allow a suitable lighting column to be designed, such as the topography factor, site wind speed, site altitude and terrain category, which are used to determine the design wind pressure.

This Published Document provides additional guidance, not included within the scope of BS EN 40, on the design and fitting attachments to lighting columns, steel fatigue design checks, lighting column foundation designs and the installation of lighting columns on site.

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, or limits 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.

Standards publications

BS EN 40-1:1992, *Lighting columns. Definitions and terms*

BS EN 40-3-1:2013, *Lighting columns. Design and verification. Specification for characteristic load*

BS EN 40-3-3, *Lighting columns. Design and verification. Verification by calculation*

BS EN 1991-1-4:2005+A1:2010, *Eurocode 1 – Actions on structures. Part 1-4: General actions – Wind actions*

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

For the purposes of this document the terms and definitions given in BS EN 40-1:1992, BS EN 40-3-1:2013 and BS EN 1991-1-4:2005+A1:2010 and the following apply.

3.1.1 administrative authority

national, regional or local government public body, but equally a private or corporate organization, for whom multiple lighting column installations are specified and installed

3.1.2 anchorage

interface between the holding down stud and the foundation medium through which the stud forces pass to the foundation

3.1.3 anchor plate

steel plate connected to the lower end of the holding down studs to form an anchor in the concrete foundation

NOTE Typically, a single plate connected to all the studs.

3.1.4 cast-in socket

internally threaded socket connector for anchoring holding down bolts in a flanged lighting column connection

