BS 8500-2:2023

BSI Standards Publication

Concrete – Complementary British Standard to BS EN 206

Part 2: Specification for constituent materials and concrete

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Summary of pages
This document comprises a front cover, an inside front cover, pages I to IV, pages 1 to 45, an inside back cover and a back cover.

Foreword

Publishing information

This part of BS 8500 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 November 2023. It was prepared by Working Group B/517/1/WG20, *Specification drafting,* under the authority of Subcommittee B/517/1, *Concrete production and testing,* and Technical Committee B/517, *Concrete and related products*. A list of organizations represented on this committee can be obtained on request to the committee manager.

Supersession

This part of BS 8500 supersedes BS 8500-2:2015+A2:2019, which is withdrawn.

Relationship with other publications

BS 8500 contains additional United Kingdom provisions to be used in conjunction with BS EN 206:2013+A2:2021. Together they form a complete package for the specification, production and conformity of concrete.

BS 8500 is published in two parts:

- Part 1, *Method of specifying and guidance for the specifier*; and
- Part 2, *Specification for constituent materials and concrete.*

Information about this document

This new edition of BS 8500-2 incorporates technical changes only. It does not represent a full review or revision of the document, which will be undertaken in due course. The principal changes are:

- the inclusion of BS EN 197-5 cements and their equivalent combinations as general purpose cements;
- the redefinition of a production day for air content testing;
- clauses for production, delivery and conformity requirements moved to a new normative annex;
- amendment of the combination conformity procedures for the new equivalent combinations;
- corrections and minor clarifications; and
- all references have been updated.

The changes are predominantly concerned with the increased range of cementitious materials covered. BS EN 197-5 introduced CEM II/C-M and CEM IV multi-component cements with a lower proportion of clinker than allowable by BS EN 197-1. The conformity procedure for combinations, and examples, have been expanded for the equivalent combinations of Portland composite and composite cements.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

Hazard warning

WARNING. Where skin is in contact with fresh concrete, skin irritations are likely to occur owing to the alkaline nature of cement. The abrasive effects of sand and aggregate in the concrete can aggravate the condition. Potential effects range from dry skin, irritant contact dermatitis, to – in cases of prolonged exposure – severe burns. Take precautions to avoid dry cement entering the eyes, mouth and nose when mixing mortar or concrete by wearing suitable protective clothing. Take care to prevent fresh concrete from entering boots and use working methods that do not require personnel to kneel in fresh concrete. Unlike heat burns, cement burns might not be felt until some time after contact with fresh concrete, so there might be no warning of damage occurring. If cement or concrete enters the eye, immediately wash it out thoroughly with clean water and seek medical treatment without delay. Wash wet concrete off the skin immediately. Barrier creams may be used to supplement protective clothing but are not an alternative means of protection.

Use of this document

It has been assumed in the preparation of this part of BS 8500 that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

The requirement for a producer to hold third-party certification to supply designated concrete has been approved by the Standards Policy and Strategy Committee. This exception has been permitted as an option for those who wish to specify a range of concretes defined as suitable for their designated application covered by third-party certification with specified minimum requirements.

Presentational conventions

The provisions of this document are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

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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Introduction

The requirements in this part of BS 8500 are given for defined materials with an established or accepted adequate performance in the conditions found in the United Kingdom. These requirements might not be appropriate for use in exposure conditions different from the United Kingdom, particularly in hot climates. The use of constituents not listed in this part of BS 8500 should be by agreement between the producer and specifier on a case-by-case basis.

1 Scope

This part of BS 8500 specifies constituent materials and concrete. This part of BS 8500 complements BS EN 206. It provides United Kingdom national provisions where required or permitted by BS EN 206. It also covers materials, methods of testing and procedures that are outside the scope of BS EN 206, but within national experience.

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[1]. 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 812-104, *Testing aggregates – Part 104: Method for qualitative and quantitative petrographic examination of aggregates*

BS 812-123, *Testing aggregates – Part 123: Method for determination of alkali-silica reactivity – Concrete prism method*

BS 1881-124, *Testing concrete – Part 124: Method for analysis of hardened concrete*

BS 1881-129, *Testing concrete – Part 129: Method for determination of density of partially compacted semi-dry fresh concrete*

BS 6068-2.37, *(ISO 9297), Water quality – Part 2: Physical, chemical and biochemical methods – Section 2.37: Method for the determination of chloride via a silver nitrate titration with chromate indicator (Mohr's method)*

BS 6068-2.42, *Water quality – Part 2: Physical, chemical and biochemical methods – Section 2.42: Determination of sodium and potassium: determination of sodium by atomic absorption spectrometry*

BS 6068-2.43, *Water quality – Part 2: Physical, chemical and biochemical methods – Section 2.43: Determination of sodium and potassium: determination of potassium by atomic absorption spectrometry*

BS 6068-2.44, *Water quality – Part 2: Physical, chemical and biochemical methods – Section 2.44: Determination of sodium and potassium: determination of sodium and potassium by flame emission spectrometry*

BS 7943, *Guide to the interpretation of petrographical examinations for alkali-silica reactivity*

BS 7979, *Specification for limestone fines for use with Portland cement*

BS 8000-2.1, *Workmanship on building sites – Part 2: Code of practice for concrete work – Section 2.1: Mixing and transporting concrete*

[1] Documents that are referred to solely in an informative manner are listed in the Bibliography.