SS 544-2:2024
BS 8500-2:2023, IDT
(ICS 91.100.30)

SINGAPORE STANDARD

Concrete – Complementary Singapore Standard to SS EN 206

– Part 2: Specification for constituent materials and concrete

Singapore Standards Council

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National Foreword

This Singapore Standard was prepared by the Working Group on Concrete set up by the Technical Committee on Building Structures and Substructures under the purview of Building and Construction Standards Committee.

This standard is a revision of SS 544-2:2019+A2:2021. It is an identical adoption of BS 8500-2:2023, "Complementary British Standard to BS EN 206, Part 2: Specification for constituent materials and concrete" and is implemented with the permission of the British Standards Limited.

SS 544 – "Concrete – Complementary Singapore Standard to SS EN 206" is published in two parts:

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

The principal changes are as follows:

- 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 SS EN 197-1. The conformity procedure for combinations, and examples, have been expanded for the equivalent combinations of Portland composite and composite cements.

SS 544 contains additional Singapore provisions to be used in conjunction with SS EN 206. Together they form a complete package for the specification, production and conformity of fresh concrete.

Singapore guidelines are provided in informative national Annexes ZA to ZG. They concern circumstances which are typical for Singapore such as climatic conditions (testing temperatures) for concrete, aggregates, cement and admixture.

Although performance-based testing has been introduced in standards for testing materials, they follow prescribed testing procedures and environmental conditions hence, test results may or may not be directly related to actual applications on site.

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

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

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "mature standards". Mature standards will not be subject to further review unless there are requests to review such standards.*

2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*

3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

Concrete – Complementary Singapore Standard to SS EN 206 – Part 2: Specification for constituent materials and concrete

0 Introduction

The requirements in this part of SS 544 are given for defined materials with an established or accepted adequate performance in the conditions found in Singapore. These requirements might not be appropriate for use in exposure conditions different from Singapore. The use of constituents not listed in this part of SS 544 should be by agreement between the producer and specifier on a case-by-case basis.

1 Scope

This part of SS 544 specifies constituent materials and concrete. This part of SS 544 complements SS EN 206. It provides Singapore national provisions where required or permitted by SS EN 206. It also covers materials, methods of testing and procedures that are outside the scope of SS 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

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