SS EN 12620:2008(2024)+A1:2009

EN 12620:2002, IDT

(ICS 91.100.15; 91.100.30)

SINGAPORE STANDARD

Specification for aggregates for concrete

This national standard is the identical implementation of EN 12620:2002 and is adopted with permission of CEN, Rue de la Science 23 B - 1040 Brussels

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National Foreword

This Singapore Standard was prepared by the Technical Committee on Building Structure and Sub-structure under the purview of the Building and Construction Standards Committee.

This standard is a revision of SS 31:1998 'Specification for Aggregates from natural sources for concrete' and is identical to EN 12620:2002 'Aggregates for concrete' with the addition of guidelines (see Annex ZZA) on alternative testing scheme for factory production control of aggregates that are imported into Singapore from sources without a system of product quality control in accordance with EN 12620. A1 It incorporates Amendment No. 1, May 2009. The start and finish of text introduced or altered by CEN Amendment 1 dated 2008-02-16 is indicated in the text by tags A1 A1. The amendment introduces clauses for recycled aggregates. The clauses call up new test methods, prEN 933-11, EN 1744-5 and EN 1367-4. A1

In Singapore, most, if not all of the aggregates, are imported. For sources of supply coming from outside Singapore, it may be difficult to find sources where producers adopt production control in accordance with EN 12620. To ensure the quality of imported aggregates, an alternative testing scheme to be undertaken by importers of aggregates in place of factory production control is given in this standard. This has been prepared with inputs from the regulatory authority and local industry stakeholders. The guidelines in Annex ZZA (normative) are based on the principles and test methods used in EN 12620:2002, to ensure the imported aggregates conform to the relevant requirements of the standard.

Relevant EN test methods are listed in Clause 2. The temperature used in the test method specifications is only for conformity testing requirements and may not represent the temperature when the material is used in concrete.

It is recommended to read SS EN 12620 and the EN test methods together with PD 6682-1:2003 'Guidance on the use of BS EN 12620' and PD 6682-9:2003 'Guidance on the use of European test methods standards' both published by BSI.

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Acknowledgement is made for the use of information from the above reference.

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.*

Specification for aggregates for concrete

1 Scope

This Singapore Standard specifies the properties of aggregates and filler aggregates obtained by processing natural, manufactured or recycled materials and mixtures of these aggregates for use in concrete. It covers aggregates having an oven dried particle density greater than 2.00 Mg/m^3 (2000 kg/m^3) for all concrete, including concrete in conformity with EN 206-1 and concrete used in roads and other pavements and for use in precast concrete products. [A1] It also covers recycled aggregate with densities between 1.50 Mg/m^3 (1500 kg/m^3) and 2.00 Mg/m^3 (2000 kg/m^3) with appropriate caveats and recycled fine aggregate (4 mm) with appropriate caveats. [A1]

It also specifies that a quality control system is in place for use in factory production control and it provides for the evaluation of conformity of the products to this Singapore Standard.

This standard does not cover filler aggregates to be used as a constituent in cement or as other than inert filler aggregates for concrete.

NOTE 1 – Aggregates used in construction should comply with all the requirements of this Singapore Standard. As well as familiar and traditional natural and manufactured aggregates Mandate M/125 "Aggregates" included recycled aggregates and some materials from new or unfamiliar sources. Recycled aggregates are included in the standards and new test methods for them are at an advanced stage of preparation. For unfamiliar materials from secondary sources, however, the work on standardisation has only started recently and more time is needed to define clearly the origins and characteristics of these materials. In the meantime such unfamiliar materials when placed on the market as aggregates must comply fully with this standard and national regulations for dangerous substances (see Annex ZA of the standard) depending upon their intended use. Additional characteristics and requirements may be specified on a case by case basis depending upon experience of use of the product, and defined in specific contractual documents.

NOTE 2 – Properties for lightweight aggregates are specified [A1] BS EN 13055-1:2002 [A1] .

2 Normative references

This Singapore Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this Singapore Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies (including amendments).

[A1] EN 196-2, *Methods of testing cement – Part 2 : Chemical analysis of cement.* [A1]

EN 932-3, *Tests for general properties of aggregates – Part 3 : Procedure and terminology for simplified petrographic description.*

EN 932-5, *Tests for general properties of aggregates – Part 5 : Common equipment and calibration.*

EN 933-1, *Tests for geometrical properties of aggregates – Part 1 : Determination of particle size distribution – Sieving method.*

EN 933-3, *Tests for geometrical properties of aggregates – Part 3 : Determination of particle shape – Flakiness index.*

EN 933-4, *Tests for geometrical properties of aggregates – Part 4 : Determination of particle shape – Shape index.*