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Ballast – Vattenbyggnadssten – Del 2: Provningsmetoder

Armourstone, Part 2: Test methods

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Denna standard ersätter SS-EN 13383-2, utgåva 1.

The European Standard EN 13383-2:2019 has the status of a Swedish Standard. This document contains the official version of EN 13383-2:2019.

This standard supersedes the SS-EN 13383-2, edition 1.

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EUROPEAN STANDARD

EN 13383-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2019

ICS 91.100.15

Supersedes EN 13383-2:2002

English Version

Armourstone, Part 2: Test methods

Enrochements - Partie 2: Méthodes d'essai

Wasserbausteine - Teil 2: Prüfverfahren

This European Standard was approved by CEN on 13 August 2018.

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COMITÉ EUROPÉEN DE NORMALISATION
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SS-EN 13383-2:2019 (E)

European foreword

This document (EN 13383-2:2019) has been prepared by Technical Committee CEN/TC 154 “Aggregates”, the secretariat of which is held by BSI.

This document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by month year of December 2019, and conflicting national standards shall be withdrawn at the latest by month year of December 2019.

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

This document supersedes EN 13383-2:2002.

In comparison with the previous version, the following changes have been made:

- changes and clarifications to the sampling and sample reduction clauses, including a new informative Annex on sampling from waterborne plant
- introduction of requirements for sample preparation for the Micro-Deval test previously in EN 13383-1.
- deletion of an unused wet sieving method for the determination of particle size distribution of coarse gradings of armourstone
- removal to an informative annex of a previously normative alternative to the reference method for determination of mass distribution of light and heavy gradings.

Otherwise the majority of the changes from the previous version are editorial.

EN 13383 *Armourstone* consists of the following parts:

- *Part 1: Specifications*
- *Part 2: Test methods*

1 Scope

This document specifies sampling and test methods for natural, artificial and recycled aggregates for use as armourstone. This document specifies the reference methods to be used for type testing and in case of dispute where an alternative method has been used. For other purposes, in particular factory production control, other methods may be used provided that an appropriate working relationship with the test method has been established.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 932-1:1996, *Tests for general properties of aggregates — Part 1: Methods for sampling*

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 933-2, *Tests for geometrical properties of aggregates — Part 2: Determination of particle size distribution — Test sieves, nominal size of apertures*

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

EN 1097-1:2011, *Tests for mechanical and physical properties of aggregates — Part 1: Determination of the resistance to wear (micro-Deval)*

EN 1097-5, *Tests for mechanical and physical properties of aggregates — Part 5: Determination of the water content by drying in a ventilated oven*

ISO 3310-2, *Test sieves — Technical requirements and testing — Part 2: Test sieves of perforated metal plate*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

SS-EN 13383-2:2019 (E)

3.1

armourstone grading

armourstone designation with a nominal lower and upper limit

Note 1 to entry: This designation accepts the presence of undersize and oversize pieces of armourstone.

3.2

nominal lower limit

mass or sieve size in a grading below which the armourstone pieces are considered to be undersized

3.3

nominal upper limit

mass or sieve size in a grading above which the armourstone pieces are considered to be oversized

3.4

coarse grading

designation of grading with a nominal upper limit defined by a sieve size ≥ 90 mm and ≤ 250 mm

3.5

light grading

designation of grading with a nominal upper limit defined by a mass ≥ 40 and ≤ 300 kg

3.6

heavy grading

designation of grading with a nominal upper limit defined by a mass $\geq 1\ 000$ kg

3.7

fragment

aggregate pieces in the finest fraction of coarse gradings or the lightest fraction of light and heavy gradings for which the particle size distribution or mass distribution requirements apply

Note 1 to entry: For further information on grading, see EN 13383-1:—, Annex B¹.

3.8

batch

production quantity, delivery quantity, partial delivery quantity (railway wagon-load, lorry-load, ship's cargo) or a stockpile produced at one time under conditions that are presumed uniform

3.9

sampling plan

procedure of allocation, withdrawal and preparation of a sample or samples from a material to yield the required information

3.10

sampling increment

quantity of material taken from a batch by one operation of the sampling apparatus

3.11

bulk sample

aggregation of the sampling increments

¹ Under preparation. Stage at the time of publication: FprEN 13383-1:2017.

3.12

representative sample

sample created by taking sampling increments according to sampling plan, which makes it likely that the quality of this sample corresponds to that of the batch

3.13

subsample

sample obtained from sampling increments or a bulk sample by means of a sample reduction procedure

3.14

sampler

individual or a number of individuals working as a team, or an organisation, taking samples on a routine basis

3.15

length

L

maximum dimension of a piece of armourstone as defined by the greatest distance apart of two parallel planes tangential to the stone's surface

3.16

thickness

T

minimum dimension of a piece of armourstone as defined by the least distance apart of two parallel planes tangential to the stone's surface

3.17

constant mass

successive weighings after drying at least 24 h apart not differing by more than 0,1 %

Note 1 to entry: In many cases, constant mass can be achieved after a test portion has been dried for a pre-determined period in a specified oven at (110 ± 5) °C. Test laboratories can determine the time required to achieve constant mass for specific types and sizes of sample dependent upon the drying capacity of the oven used.

4 Methods for sampling

4.1 General

This clause describes methods for obtaining samples of armourstone from preparation and processing plants including stocks and from silos, stockpiles and deliveries.

NOTE It is preferable for armourstone to be sampled at the quarry or during the loading for transport (or unloading).

The aim of sampling is to obtain samples that are representative of the average properties of the batch.

The methods described are also suitable for obtaining sampling increments, which are to be tested separately.

Methods to be used for sample reduction are also given.