

SVENSK STANDARD

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Silikastoft till betong – Del 2: Utvärdering av överensstämmelse

Silica fume for concrete – Part 2: Conformity evaluation

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Denna standard ersätter SS-EN 13263-2:2005, utgåva 1.

The European Standard EN 13263-2:2005+A1:2009 has the status of a Swedish Standard. This document contains the official English version of EN 13263-2:2005+A1:2009.

This standard supersedes the Swedish Standard SS-EN 13263-2:2005, edition 1.

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SIS Förlag AB, SE 118 80 Stockholm, Sweden. Tel: +46 8 555 523 10. Fax: +46 8 555 523 11.
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13263-2:2005+A1

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English Version

Silica fume for concrete - Part 2: Conformity evaluation

Fumée de silice pour béton - Partie 2: Evaluation de la conformité

Silikastaub für Beton - Teil 2: Konformitätsbewertung

This European Standard was approved by CEN on 19 May 2005 and includes Amendment 1 approved by CEN on 8 February 2009.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

| | Page |
|---|------|
| Foreword..... | 3 |
| 1 Scope | 4 |
| 2 Normative references | 4 |
| 3 Terms and definitions | 4 |
| 4 Tasks for the manufacturer | 8 |
| 4.1 Factory production control | 8 |
| 4.2 Internal quality control | 9 |
| 4.3 Autocontrol testing of samples | 11 |
| 4.4 Further testing of samples | 11 |
| 5 Tasks for the certification body | 12 |
| 5.1 General..... | 12 |
| 5.2 Surveillance, assessment and acceptance of the factory production control..... | 12 |
| 5.3 Evaluation of the results of autocontrol testing of samples | 12 |
| 5.4 Audit testing of samples taken at the production plant/depot and initial type testing | 13 |
| 5.5 Initial inspection of the production facilities and the factory production control | 14 |
| 5.6 Evaluation of test results during the initial period | 15 |
| 6 Actions in the event of non-conformity..... | 15 |
| 6.1 Actions to be taken by the manufacturer..... | 15 |
| 6.2 Actions to be taken by the certification body..... | 15 |
| 7 Procedure for third party certification of conformity..... | 16 |
| 8 Certificate of conformity and conformity mark | 16 |
| 8.1 Indication of conformity | 16 |
| 8.2 Certificate of conformity | 17 |
| 8.3 Conformity mark | 17 |
| Bibliography | 19 |

Foreword

This document (EN 13263-2:2005+A1:2009) has been prepared by Technical Committee CEN/TC 104 “Concrete and related products”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

This document includes Amendment 1, approved by CEN on 2009-02-08.

This document supersedes EN 13263-2:2005.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**.

EN 13263 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of Part 1 of EN 13263.

A1 EN 13263-2:2005+A1:2009 contains a deletion of the second paragraph of 4.2.2.2. **A1**

EN 13263 consists of the following parts, under the general title *Silica fume for concrete*:

- Part 1: Definitions, requirements and conformity criteria;
- Part 2: Conformity evaluation.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This part of EN 13263 specifies the scheme for the evaluation of conformity of silica fume to EN 13263-1, including certification of conformity by a certification body.

This European Standard provides technical rules for production control by the manufacturer, including autocontrol testing of samples, and for the tasks of the certification body. It also provides rules for actions to be followed in the event of non-conformity and the procedure for the certification of conformity.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 196-1, *Methods of testing cement — Part 1: Determination of strength*

EN 196-2, *Methods of testing cement — Part 2: Chemical analysis of cement*

EN 196-7:2007 ^{A1}, *Methods of testing cement — Part 7: Methods of taking and preparing samples of cement*

EN 206-1, *Concrete — Part 1: Specification, performance, production and conformity*

EN 13263-1:2005, *Silica fume for concrete — Part 1: Definitions, requirements and conformity criteria*

3 Terms and definitions

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

3.1

activity index

measurement of the effect of silica fume on the compressive strength of mortar

3.2

allowable probability of acceptance

CR

for a given sampling plan, the allowed probability of acceptance of silica fume with a characteristic value outside the specified characteristic value

3.3

autocontrol

continuous statistical quality control of the silica fume based on the testing of samples taken by the manufacturer at point(s) of release from the silica fume production plant

3.4

autocontrol testing

continual testing by the manufacturer of silica fume spot samples taken at the point(s) of release from the production plant

3.5

certificate of conformity to EN 13263-1

document issued under the rules of a certain scheme for the evaluation of conformity indicating that adequate confidence is provided that a silica fume is in conformity with EN 13263-1

3.6

certification

procedure by which a third party gives written assurance that a product, process or service conforms to specified requirements

[EN 45020:1998]

3.7

certification body

impartial body, governmental or non-governmental, possessing the necessary competence and responsibility to carry out conformity certification according to given rules of procedure and management

3.8

certified silica fume

silica fume for which a certificate of conformity (see 3.5) has been issued

3.9

characteristic value

value having a prescribed probability of not being attained in a hypothetical unlimited test series

[ISO 8930:1987]

NOTE Equivalent to "fractile" which is defined in ISO 3534-1.

3.10

conformity mark

protected mark applied on the basis of the certificate of conformity (see 3.5)

3.11

control period

period of production and dispatch identified for the evaluation of the autocontrol test results

3.12

densified silica fume

silica fume that has been treated to increase the bulk density by particle agglomeration, the bulk density typically being above 500 kg/m³

3.13

depot

bulk silica fume handling facility – not located at the production plant - used for the dispatch of silica fume – whether in bulk or bagged – after transfer or storage where the manufacturer has full responsibility for all aspects of the quality of the silica fume

3.14

existing production plant

production plant which is already producing silica fume under the certification scheme

3.15

factory production control

permanent internal control of silica fume production exercised by the manufacturer including internal quality control and autocontrol testing

NOTE The required activities are stated in 4.1 to 4.3 in this part of EN 13263.

3.16

further testing of samples

testing according to 4.4 in this part of EN 13263

3.17

initial period

immediate period after the first issuing of the certificate of conformity for a silica fume (see 5.6.1 in this part of EN 13263 for duration)

3.18

initial type testing

testing of the first audit sample according to 5.4 in this part of EN 13263

3.19

inspection body

impartial body having the organization, staffing, competence and integrity to perform according to specified criteria functions such as assessing, recommending for acceptance and subsequent audit of manufacturers' quality control operations, and selection and evaluation of products on site or in factories or elsewhere, according to specific criteria

3.20

new production plant

production plant which is not already producing silica fume under the certification scheme

3.21

production plant

facility used by a manufacturer for the production of silica fume:

- a) silicon metal or silicon alloy production plant;
- b) processing plant, for example for the selection, slurrifying, blending or densifying of silica fume.

3.22

quality control

part of quality management focused on fulfilling quality requirements

[EN ISO 9000:2000]

3.23

sampling plan

specific plan which states the (statistical) sample size(s) to be used, the percentage P_k on which the characteristic value is based, and the allowable probability of acceptance CR

3.24

silica fume

very fine particles of amorphous silicon dioxide collected as a by-product of the smelting process used to produce silicon metal and ferro-silicon alloys

NOTE 1 Silica fume may be processed, for example by classification, selection, blending, densifying, or slurrifying, or by a combination of these processes, in adequate production plants. Such processed silica fume may consist of silica fumes from different sources, each conforming to the definition given in this subclause.

NOTE 2 Other names used for silica fume are condensed silica fume and microsilica.

3.25

silica fume slurry

homogeneous, pH regulated liquid suspension of silica fume in water, typically with a dry content of 50 % by mass, corresponding to about 700 kg of silica fume per m^3 of slurry

3.26

single result limit value

value of a chemical or physical property which – for any single test result – in the case of an upper limit is not to be exceeded or in the case of a lower limit is, as a minimum, to be reached

3.27

specified characteristic value

characteristic value of a chemical or physical property which in the case of an upper limit is not to be exceeded or in the case of a lower limit is, as a minimum, to be reached

NOTE Conformity with the specified characteristic values in EN 13263-1 is verified by the methods in 7.2 of EN 13263-1:2005.

3.28

spot sample

[A1] sample taken within a short period of time and at a fixed point from within a larger quantity, relating to the intended tests. It can be obtained by combining one or more immediately consecutive increments

[EN 196-7:2007] **[A1]**

3.29

test

technical operation that consists of the determination of a characteristic of a product according to a specified procedure

[Adapted from EN 45020:1998]

3.30

test cement

selected brand of Portland cement of type CEM I, strength class 42,5 N or higher, conforming to EN 197-1 to be used for carrying out the tests needed to evaluate conformity to the requirement of 5.3.3 in EN 13263-1:2005.

Test cement is selected by the silica fume manufacturer and is further characterized by its fineness and contents of tricalcium aluminate and alkalis as follows:

— Fineness: 300 m²/kg to 400 m²/kg when determined in accordance with EN 196-6;

— Tricalcium aluminate: 8 % to 12 % when determined in accordance with EN 196-2;

— Alkalis (Na₂O eqv): 0,6 % to 1,2 % when determined in accordance with EN 196-2.

3.31

testing laboratory

laboratory which measures, examines, tests, calibrates or otherwise determines the characteristics or performance of materials or products

3.32

test method

specified technical procedure for performing a test

[EN 45020:1998]

3.33

type II addition

finely divided inorganic, pozzolanic or latent hydraulic material that may be added to concrete in order to improve certain properties or to achieve special properties, see EN 206-1

3.34

undensified silica fume

silica fume taken directly from the collection filter, the bulk density typically being in the range 150 kg/m³ to 350 kg/m³

3.35

works' quality manual

document that provides information on the production control which is applied by a manufacturer at a particular production plant to ensure conformity of the silica fume with the requirements of EN 13263-1