

**Betooni ja mördi keemilised lisandid.
Osa 5: Pritsbetooni lisandid.
Definitsioonid, nõuded ja vastavus**

Admixtures for concrete, mortar and grout - Part 5:
Admixtures for sprayed concrete - Definitions,
requirements, conformity, marking and labelling

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 934-5:2007 sisaldab Euroopa standardi EN 934-5:2007 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 22.11.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 934-5:2007 consists of the English text of the European standard EN 934-5:2007.</p> <p>This document is endorsed on 22.11.2007 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This European Standard defines and specifies requirements and conformity for admixtures specifically intended for use in sprayed concrete. The types of admixtures covered are: - set accelerating and non-alkaline set accelerating admixtures; - consistence control admixtures; - bond improving admixtures. Provisions governing the practical application of these admixtures in the production of sprayed concrete are not part of this European Standard.</p>	<p>Scope:</p> <p>This European Standard defines and specifies requirements and conformity for admixtures specifically intended for use in sprayed concrete. The types of admixtures covered are: - set accelerating and non-alkaline set accelerating admixtures; - consistence control admixtures; - bond improving admixtures. Provisions governing the practical application of these admixtures in the production of sprayed concrete are not part of this European Standard.</p>
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Võtmesõnad:

ICS 91.100.10

English Version

**Admixtures for concrete, mortar and grout - Part 5: Admixtures
for sprayed concrete - Definitions, requirements, conformity,
marking and labelling**

Adjuvants pour béton, mortier et coulis - Partie 5 :
Adjuvants pour bétons projetés - Définitions, exigences,
conformité, marquage et étiquetage

Zusatzmittel für Beton, Mörtel und Einpressmörtel - Teil 5:
Zusatzmittel für Spritzbeton - Begriffe, Anforderungen,
Konformität, Kennzeichnung und Beschriftung

This European Standard was approved by CEN on 13 August 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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.



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Foreword

This document (EN 934-5:2007) 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 April 2008, and conflicting national standards shall be withdrawn at the latest by July 2009.

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

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

For relationship with EC Directive(s), see informative Annex ZA, which is an integral part of this document.

This European Standard is a part of the series EN 934 *Admixtures for concrete, mortar and grout* which is comprised of the following parts:

Part 1: Common requirements¹⁾

Part 2: Concrete admixtures — Definitions, requirements, conformity, marking and labelling

Part 3: Admixtures for masonry mortar — Definitions, requirements, conformity, marking and labelling

Part 4: Admixtures for grout for prestressing tendons — Definitions, requirements, conformity, marking and labelling

Part 5: Admixtures for sprayed concrete — Definitions, requirements, conformity, marking and labelling

Part 6: Sampling, conformity control and evaluation of conformity.

This European Standard is used with the standards of the series EN 480 which comprises test methods for admixtures.

Subject to the provisions in EN 14487-1, *Sprayed concrete – Part 1: Definitions, specifications and conformity* admixtures covered by EN 934-2 may also be considered for the use in sprayed concrete.

A previous draft of EN 934-5 had been submitted to Formal Vote in 2004 and had formally passed the vote by majority of CEN-members in 2005. Together with this vote, however, some members presented severe technical comments which were agreed upon by the relevant CEN/TC 104/SC 3 to be taken into account by an amendment. In order to avoid the need of using two separate papers in practice, CEN/TC 104 decided, however, not to publish the agreed document but to submit a further consolidated version including the amended issues to UAP, which finally should be published.

The amendments to the final draft prEN 934-5:2004-11 are the following:

- Table 1: requirements in line 5 (Conventional dry material content), 7 (Total chlorine) and 8 (Water soluble chloride);

- Table 2: heading of table; curing conditions in footnote ^d;

1) This document is under preparation.

- Table 3: heading of table;
- Table 4: heading of table;
- Table 5: minimum frequency of testing of alkali content;
- Annex B: new clauses B.4 and B.5 with more details of testing; new clause B.6, extending the test report;
- Annex C: detailing the testing in clause C.4.

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 the United Kingdom.

1 Scope

This European Standard defines and specifies requirements and conformity for admixtures specifically intended for use in sprayed concrete.

The types of admixtures covered are:

- set accelerating and non-alkaline set accelerating admixtures;
- consistence control admixtures;
- bond improving admixtures.

Provisions governing the practical application of these admixtures in the production of sprayed concrete are not part of this European Standard.

2 Normative references

The following referenced documents are indispensable for the application 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 196-1, *Methods of testing cement — Part 1: Determination of strength*

EN 196-3, *Methods of testing cement — Part 3: Determination of setting times and soundness*

EN 197-1, *Cement — Part 1: Composition, specifications and conformity criteria for common cements*

EN 480-1, *Admixtures for concrete, mortar and grout — Test methods — Part 1: Reference concrete and reference mortar for testing*

EN 480-2, *Admixtures for concrete, mortar and grout — Test methods — Part 2: Determination of setting time*

EN 480-6, *Admixtures for concrete, mortar and grout — Test methods — Part 6: Infrared analysis*

EN 480-8, *Admixtures for concrete, mortar and grout — Test methods — Part 8: Determination of the conventional dry material content*

EN 480-10, *Admixtures for concrete, mortar and grout — Test methods — Part 10: Determination of water soluble chloride content*

EN 480-12, *Admixtures for concrete, mortar and grout — Test methods — Part 12: Determination of the alkali content of admixtures*

EN 934-6:2001, *Admixtures for concrete, mortar and grout — Part 6: Sampling, conformity control and evaluation of conformity*

EN 1542:1999, *Products and systems for the protection and repair of concrete structures — Test methods — Measurement of bond strength by pull-off*

EN 12350-2, *Testing fresh concrete — Part 2: Slump test*

EN 12350-5, *Testing fresh concrete — Part 5: Flow table test*

EN 12390-3, *Testing hardened concrete — Part 3: Compressive strength of test specimens*

EN ISO 1158, *Plastics — Vinyl chloride homopolymers and copolymers — Determination of chlorine content (ISO 1158:1998)*

ISO 758, *Liquid chemical products for industrial use — Determination of density at 20 degrees C*

ISO 4316, *Surface active agents — Determination of pH of aqueous solutions — Potentiometric method*

3 Terms and definitions

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

3.1 General definitions

3.1.1

performance

ability of an admixture to be effective in its intended use without detrimental effects

3.1.2

compliance dosage

dosage of an admixture, expressed in % by mass of cement, stated by the manufacturer, which will meet the requirements of this European Standard

NOTE The compliance dosage should be within the recommended range of dosage.

3.1.3

recommended range of dosage

dosages between limits expressed in % by mass of cement that the manufacturer recommends for the product based on experience on site

NOTE The use of the recommended dosage does not imply that compliance with this European Standard will be met over the whole range. Trial tests should be carried out with the materials to be used on site to find the dosage necessary to achieve the required result.

3.1.4

maximum recommended dosage

upper limit of the recommended range of dosage

3.1.5

control mix

prescribed mix without admixture

3.1.6

test mix

prescribed mix incorporating an admixture

3.2 Specific definitions

3.2.1

sprayed concrete admixture

material added to the concrete mix before or during the spraying process, in a quantity not exceeding 5 % by mass of cement, except for sprayed concrete set accelerating admixture, where the dosage should not exceed 12 %, to modify the properties of the mix in the fresh and/or hardened state

3.2.2

sprayed concrete set accelerating admixture

admixture to develop very early setting of the sprayed concrete differing from set accelerating admixtures as defined and specified in EN 934-2