

STN	Vysokopecný síranový cement. Zloženie, špecifikácie a kritériá zhody.	STN EN 15743+A1 72 2130
------------	--	---

Supersulfated cement - Composition, specifications and conformity criteria

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/15

Obsahuje: EN 15743:2010+A1:2015

Oznámením tejto normy sa ruší
STN EN 15743 (72 2130) z novembra 2010

121068

English Version

**Supersulfated cement - Composition, specifications and
conformity criteria**Ciment sursulfaté - Composition, spécifications et critères
de conformitéSulfathüttenzement - Zusammensetzung, Anforderungen
und Konformitätskriterien


This European Standard was approved by CEN on 11 December 2009 and includes Amendment 1 approved by CEN on 24 November 2014.


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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

Contents	Page
Foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Supersulfated cement	8
5 Constituents	8
5.1 Main constituents	8
5.1.1 Granulated blastfurnace slag (S)	8
5.1.2 Calcium sulfate (Cs)	8
5.2 Additional constituents	8
5.2.1 Portland cement clinker (K)	8
5.2.2 Other additional constituents (A)	8
5.3 Additives	9
6 Composition and notation	9
7 Mechanical, physical, chemical and durability requirements	10
7.1 Mechanical requirements	10
7.1.1 Standard strength	10
7.1.2 Early strength	10
7.2 Physical requirements	11
7.2.1 Initial setting time	11
7.2.2 Soundness	11
7.2.3 Heat of hydration	11
7.3 Chemical requirements	11
7.4 Durability requirements	11
7.4.1 General	11
7.4.2 Sulfate resistance	12
7.5 Dangerous substances	12
8 Standard designation	12
9 Conformity criteria	12
9.1 General requirements	12
9.2 Conformity criteria for mechanical, physical and chemical properties and evaluation procedure	14
9.2.1 General	14
9.2.2 Statistical conformity criteria	14
9.2.3 Single result conformity criteria	16
9.3 Conformity criteria for cement composition	17
9.4 Conformity criteria for properties of the cement constituents	17
Annex A (informative) Precautions related to the use of supersulfated cement	18
A.1 Blending with other binders	18
A.2 Use of additions in concrete	18
A.3 Effects of weather, striking and curing	18
A.4 Heat treatment	18
Annex ZA (informative)  Clauses of this European Standard addressing the provisions of the EU Construction Products Regulation	19

ZA.1	Scope and relevant characteristics	19
ZA.2	Procedure for AVCP of supersulfated cements	21
ZA.2.1	System of AVCP	21
ZA.2.2	Declaration of performance (DoP)	23
ZA.2.2.1	General	23
ZA.2.2.2	Content.....	23
ZA.2.2.3	Example of DoP.....	24
ZA.3	CE marking and labelling.....	25 
	Bibliography.....	27

Foreword

This document (EN 15743:2010+A1:2015) has been prepared by Technical Committee CEN/TC 51 "Cement and building limes", the secretariat of which is held by NBN.

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 October 2015, and conflicting national standards shall be withdrawn at the latest by January 2017.

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 includes Amendment 1, approved by CEN on 2014-11-24.

This document supersedes EN 15743:2010.

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

A1 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 the EU Construction Products Regulation.

For relationship with the EU Regulation concerning the CPR, see informative Annex ZA, which is an integral part of this document. A1

Annex A is informative.

This European Standard sets out requirements for the composition and specifications of supersulfated cement. A1 The scheme for the assessment and verification of constancy of performance (AVCP) of supersulfated cement is that specified in EN 197-2. A1

The requirements in this European Standard are based on the results of tests on cement in accordance with parts 1, 2, 3, 7, 8 and 9 of EN 196, *Methods of testing cement*.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The basis for this European Standard has been the national standards already existing in Europe. Supersulfated cement was originally standardised in several European countries, Belgium, France, Germany, Netherlands and the United Kingdom, and has been used in concrete for foundations and massive structures. The demand for quick setting cements enabling early formwork removal caused the manufacturing of supersulfated cements to be superseded by those based on Portland cement clinker. Standards were either abandoned, as in France, or kept in the catalogue of standards but never used, as in the United Kingdom.

In discharging the mandate given to CEN, Technical Committee TC 51 considered the large number of different cements involved. It was decided to separate the "common cements", where the hardening mainly depends on the hydration of calcium silicates and setting these out in EN 197-1, from "special cements", i.e. those with additional or special properties.

Supersulfated cement hardening depends on granulated blastfurnace slag activation by calcium sulfate. A lower heat of hydration than for Portland cement clinker results in lower early compressive strength than common cements and a significantly lower early heat of hydration. In addition, it produces concrete which has resistance to chemically aggressive environments, such as sulfates.

Ongoing developments in material technology as well as in production technology again open the option to produce supersulfated cement fulfilling the demands and requirements of the market. As the principles in hydration differ from that of "common cements" covered by EN 197-1, CEN Technical Committee TC 51 decided to elaborate a separate standard for supersulfated cement.

The rate of hardening and lower early strength require that additional precautions are considered when using supersulfated cements to ensure adequate concrete curing.

1 Scope

This European Standard defines and gives the specifications of supersulfated cement and its constituents. The definition of supersulfated cement includes the proportions in which the constituents are to be combined to produce products in accordance with this standard. The definition also includes requirements the constituents have to meet and the mechanical, physical, chemical including heat of hydration requirements. This standard also states the conformity criteria and the related rules.

NOTE 1 In addition to the specified requirements, an exchange of additional information between the cement manufacturer and user may be helpful. The procedures for such an exchange are not within the scope of this standard but should be dealt with in accordance with national standards or regulations or may be agreed between the parties concerned.

NOTE 2 The word "cement" in this standard is used to refer only to supersulfated cement unless otherwise specified.

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

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

EN 196-7, *Methods of testing cement — Part 7: Methods of taking and preparing samples of cement*

EN 196-8, *Methods of testing cement — Part 8: Heat of hydration - Solution method*

EN 196-9, *Methods of testing cement — Part 9: Heat of hydration - Semi-adiabatic method*

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

EN 197-2:2014 ^{A1}, *Cement — Part 2: Conformity evaluation*

EN 459-1, *Building lime — Part 1: Definitions, specifications and conformity criteria*

EN 934 (all parts), *Admixtures for concrete, mortar and grout*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN