

**Peenestatud granuleeritud  
räbutsemendi kasutamine betooni,  
mördi ja süstmördi valmistamisel. Osa  
1: Definitsioonid, spetsifikatsioonid ja  
vastavuskriteeriumid**

Ground granulated blast furnace slag for use in  
concrete, mortar and grout - Part 1: Definitions,  
specifications and conformity criteria

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 15167-1:2006 sisaldab Euroopa standardi EN 15167-1:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 20.09.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 15167-1:2006 consists of the English text of the European standard EN 15167-1:2006.</p> <p>This document is endorsed on 20.09.2006 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>
--	---

<p><b>Käsitlusala:</b></p> <p>This European Standard specifies requirements for the chemical and physical properties as well as quality control procedures for ground granulated blastfurnace slag for use as a type II addition in the production of concrete, including in particular cast-in-situ or prefabricated structural concrete conforming to EN 206-1. Ground granulated blastfurnace slag conforming to this European Standard may also be used in mortars and grouts.</p>	<p><b>Scope:</b></p> <p>This European Standard specifies requirements for the chemical and physical properties as well as quality control procedures for ground granulated blastfurnace slag for use as a type II addition in the production of concrete, including in particular cast-in-situ or prefabricated structural concrete conforming to EN 206-1. Ground granulated blastfurnace slag conforming to this European Standard may also be used in mortars and grouts.</p>
--	--

ICS 01.040.91, 91.100.15

Võtmesõnad:

ICS 91.100.15; 01.040.91

English Version

**Ground granulated blast furnace slag for use in concrete, mortar  
and grout - Part 1: Definitions, specifications and conformity  
criteria**

Laitier granulé de haut-fourneau moulu pour utilisation dans  
le béton, mortier et coulis - Partie 1: Définitions, exigences  
et critères de conformité

Hüttensandmehl zur Verwendung in Beton, Mörtel und  
Einpressmörtel - Teil 1: Definitionen, Anforderungen und  
Konformitätskriterien

This European Standard was approved by CEN on 26 June 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, 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.



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

**Management Centre: rue de Stassart, 36 B-1050 Brussels**

# Contents

Page

Foreword .....	3
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions .....	4
4 Constituents .....	6
5 Specifications .....	6
5.1 General .....	6
5.2 Chemical requirements .....	6
5.3 Physical requirements .....	7
5.3.1 Fineness .....	7
5.3.2 Requirements when combined with the test cement .....	7
5.4 Other requirements .....	7
5.4.1 Durability requirements .....	7
5.4.2 Release of dangerous substances and emission of radioactivity .....	7
5.5 Information to be supplied upon request .....	8
6 Packaging and labelling .....	8
7 Sampling .....	9
8 Evaluation of conformity .....	9
8.1 General requirements .....	9
8.2 Statistical conformity criteria .....	10
8.2.1 General .....	10
8.2.2 Inspection by variables .....	11
8.2.3 Inspection by attributes .....	12
8.3 Single result conformity criteria .....	12
<b>Annex A (normative) Method of determining the moisture content of ground granulated blastfurnace slag .....</b>	<b>13</b>
A.1 Principle .....	13
A.2 Apparatus .....	13
A.2.1 Balance, capable of weighing to an accuracy of 0,001 g .....	13
A.2.2 Shallow container of about 20 g capacity .....	13
A.2.3 Electric oven with natural ventilation controlled at $(110 \pm 5) ^\circ\text{C}$ .....	13
A.2.4 Desiccator containing dried magnesium perchlorate .....	13
A.3 Procedure .....	13
A.4 Calculation .....	13
A.5 Report .....	13
<b>Annex ZA (informative) Clauses of this European Standard addressing essential requirements or other provisions of EU Directives .....</b>	<b>14</b>
Bibliography .....	20

## Foreword

This document (EN 15167-1:2006) 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 February 2007, and conflicting national standards shall be withdrawn at the latest by May 2008.

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 EU Construction Products Directive (89/106/EEC).

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

The standard EN 15167 is composed of two parts:

- Part 1: Definitions, specifications and conformity criteria
- Part 2: Conformity evaluation

The preparatory work was carried out by WG15 of CEN/TC 104 since November 2003 in which the following countries participated: Austria, Belgium, Czech Republic, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Poland, Spain, Sweden, Switzerland and the United Kingdom.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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 European Standard specifies requirements for the chemical and physical properties as well as quality control procedures for ground granulated blastfurnace slag for use as a type II addition in the production of concrete, including in particular cast-in-situ or prefabricated structural concrete conforming to EN 206-1. Ground granulated blastfurnace slag conforming to this European Standard may also be used in mortars and grouts.

Ground granulated blastfurnace slag containing any added materials other than grinding aids, is not within the scope of this European Standard. It is also not within the scope of this European Standard to specify provisions governing the practical application of ground granulated blastfurnace slag in the production of concrete, mortar or grout, i.e. requirements concerning composition, mixing, placing, curing etc. As regards such provisions, reference should be made to other European or national standards, such as EN 206-1.

## 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 196-6, *Methods of testing cement — Part 6: Determination of fineness*

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

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

EN 15167-2:2006, *Ground granulated blast furnace slag for use in concrete, mortar and grout — Part 2: Conformity evaluation*

## 3 Terms and definitions

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

### 3.1

#### **activity index**

ratio (in percent) of the compressive strength of mortar prisms made from 50 % by mass test cement and 50 % by mass ground granulated blastfurnace slag, relative to the compressive strength of equivalent mortar prisms made from 100 % test cement, tested at the same age

### 3.2

#### **allowable probability of acceptance CR**

for a given sampling plan, the allowed probability of acceptance of ground granulated blastfurnace slag with a characteristic value outside the specified characteristic value