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Ehitustöödel ja tee-ehituses sidumata kujul ja hüdrauliliselt seotuna kasutatavad täitematerjalid KONSOLIDEERITUD TEKST

Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

<p>Käesolev Eesti standard EVS-EN 13242:2006+A1:2008 sisaldab Euroopa standardi EN 13242:2002+A1:2007 ingliskeelset teksti.</p>	<p>This Estonian standard EVS-EN 13242:2006+A1:2008 consists of the English text of the European standard EN 13242:2002+A1:2007.</p>
<p>Standard on kinnitatud Eesti Standardikeskuse 27.02.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p>	<p>This standard is ratified with the order of Estonian Centre for Standardisation dated 27.02.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p>
<p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 12.12.2007.</p>	<p>Date of Availability of the European standard text 12.12.2007.</p>
<p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>The standard is available from Estonian standardisation organisation.</p>

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Võtmesõnad: grain shap, grain size, grain sizing, marking, mechanical properties, mineral aggregates, nominal sizes, particle size range, permanency, physical properties, properties, quality control, road construction, roads, size ranges, specification (approval), specifications

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English Version

Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction

Granulats pour matériaux traités aux liants hydrauliques et matériaux non traités utilisés pour les travaux de génie civil et pour la construction des chaussées

Gesteinskörnungen für ungebundene und hydraulisch gebundene Gemische für den Ingenieur- und Straßenbau

This European Standard was approved by CEN on 23 September 2002 and includes Corrigendum 1 issued by CEN on 26 May 2004 and Amendment 1 approved by CEN on 3 November 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.

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Foreword

This document (EN 13242:2002+A1:2007) 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 June 2008 and conflicting national standards shall be withdrawn at the latest by September 2009.

This document includes Amendment 1, approved by CEN on 2007-11-03 and the Corrigendum issued in 2004.

This document supersedes EN 13242:2002.

The start and finish of text introduced or altered by amendment is indicated in the text by tags $\boxed{A1}$ $\boxed{A1}$.

The modifications of the related CEN Corrigendum have been implemented at the appropriate places in the text and are indicated by the tags \boxed{AC} \boxed{AC} .

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 Directive 89/106 EEC.

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

In this European Standard the annexes A and C are normative and the annex B is informative.

Requirements for other end uses of aggregates will be specified in the following European Standards:

EN 12620	Aggregates for concrete
EN 13043	Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas
EN 13055-1	Lightweight aggregates - Part 1: lightweight aggregates for concrete, mortar and grout
$\boxed{A1}$ EN 13055-2	Lightweight aggregates - Part 2: Lightweight aggregates for bituminous mixtures and surface treatments and for unbound and bound applications $\boxed{A1}$
EN 13139	Aggregates for mortar
EN 13383-1	Armourstone - Part 1: Specification
$\boxed{A1}$ EN 13450 $\boxed{A1}$	Aggregates for railway ballast

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 European Standard specifies the properties of aggregates obtained by processing natural or manufactured or recycled materials for hydraulically bound and unbound materials for civil engineering work and road construction.

It provides for the evaluation of conformity of the products to this European Standard.

AC NOTE 1 Aggregates used in construction should comply with all the requirements of this European Standard. As well as familiar and traditional natural and manufactured aggregates Mandate M/125 “Aggregates” included recycled aggregates and some materials from new or unfamiliar sources. Recycled aggregates are included in the standards and new test methods for them are at an advanced stage of preparation. For unfamiliar materials from secondary sources, however, the work on standardisation has only started recently and more time is needed to define clearly the origins and characteristics of these materials. In the meantime such unfamiliar materials when placed on the market as aggregates must comply fully with this standard and national regulations for dangerous substances (see Annex ZA of the standard) depending upon their intended use. Additional characteristics and requirements may be specified on a case by case basis depending upon experience of use of the product, and defined in specific contractual documents. **AC**

NOTE 2 Properties for lightweight aggregates are specified in EN 13055-2.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

EN 932-3, *Tests for general properties of aggregates — Part 3: Procedure and terminology for simplified petrographic description.*

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

EN 933-4, *Tests for geometrical properties of aggregates — Part 4: Determination of particle shape — Shape index.*

EN 933-5, *Tests for geometrical properties of aggregates — Part 5: Determination of percentage of crushed and broken surfaces in coarse aggregates particles*

EN 933-8, *Tests for geometrical properties of aggregates — Part 8: Assessment of fines — Sand equivalent test.*

EN 933-9, *Tests for geometrical properties of aggregates — Part 9: Assessment of fines — Methylene blue test.*

A1 prEN 933-11, *Tests for geometrical properties of aggregates — Part 11: Classification test for the constituents of coarse recycled aggregates* **A1**

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

EN 1097-2:1998, *Tests for mechanical and physical properties of aggregates — Part 2: Methods for the determination of the resistance to fragmentation.*

EN 1097-6:2000, *Tests for mechanical and physical properties of aggregates — Part 6: Determination of particle density and water absorption.*

EN 1367-1, *Tests for thermal and weathering properties of aggregates — Part 1: Determination of resistance to freezing and thawing.*

EN 1367-2, *Tests for thermal and weathering properties of aggregates — Part 2: Magnesium sulphate test.*

EN 1367-3, *Tests for thermal and weathering properties of aggregates — Part 3: Boiling test for "Sonnenbrand" basalt.*

EN 1744-1, *Tests for chemical properties of aggregates — Part 1: Chemical analysis.*

EN 1744-3, *Tests for chemical properties of aggregates — Part 3: Preparation of eluates by leaching of aggregates.*

ISO 565, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings.*

3 Terms and definitions

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

3.1

aggregate

granular material used in construction. Aggregates may be natural, manufactured or recycled

3.2

natural aggregate

aggregate from mineral sources which have been subjected to nothing more than mechanical processing

3.3

manufactured aggregate

aggregate of mineral origin resulting from an industrial process involving thermal or other modification

3.4

recycled aggregate

aggregate resulting from the processing of inorganic material previously used in construction

3.5

normal weight aggregate

aggregate of mineral origin having a particle density not less than 2,00 Mg/m³ (2 000 kg/m³) but less than 3,00 Mg/m³ (3 000 kg/m³)

3.6

aggregate size

designation of aggregate in terms of lower (d) and upper (D) sieve sizes expressed in terms as d/D

NOTE This designation accepts the presence of some particles which will be retained on the upper sieve (oversize) and some which will pass the lower sieve (undersize). The lower sieve size (d) can be zero.

3.7

fine aggregate

designation given to size aggregates with d equal to 0 and D less than or equal to 6,3 mm (see Table 2)

NOTE Fine aggregate can be produced from natural disintegration of rock or gravel and/or by the crushing of rock or gravel or processing of manufactured aggregates.