EESTI STANDARD EVS-EN 13242:2003

Ehitustöödel ja tee-ehituses kasutatavate sidumata ja hüdrauliliselt seotud materjalide täiteained

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

EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13242:2003 sisaldab Euroopa standardi EN 13242:2002+AC:2004 ingliskeelset teksti. Käesolev dokument on jõustatud 19.03.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 13242:2003 consists of the English text of the European standard EN 13242:2002+AC:2004. This document is endorsed on 19.03.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: 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	**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

ICS 91.100.15

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

EUROPEAN STANDARD

NORME EUROPÉENNE

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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 Ingenieur- und Straßenbau

This European Standard was approved by CEN on 23 September 2002.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

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Contents

Foreword

This document (EN 13242:2002) has been prepared by Technical Committee CEN/TC 154 "Aggregates", the secretariat of which is held by BSI.

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 June 2003, and conflicting national standards shall be withdrawn at the latest by June 2004.

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
prEN 13055-2 Lightweight aggregates - Part 2: Lightweight aggregates for bituminous mixtures and surface treatments and for unbound and bound applications, excluding concrete, mortar and grout
EN 13139 Aggregates for mortar
EN 13383-1 Armourstone - Part 1: Specification
prEN 13450 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the 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.

NOTE 1 The requirements in this European Standard are based upon experience with aggregate types with an established pattern of use. Care should be taken when considering the use of aggregates from sources with no such pattern of use, e.g., recycled aggregates and aggregates arising from certain industrial by-products. Such aggregates, which should comply with all the requirements of this European Standard, can have other characteristics not included in Mandate M 125 that do not apply to the generality of aggregates types with an established pattern of use and when required, provisions valid at the place of use can be used to assess their suitability.

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.*

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 1744-1:1998, *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/m^3 (2 000 kg/m^3) but less than 3,00 Mg/m^3 (3 000 kg/m^3)

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.

3.8
coarse aggregate
designation given to size aggregates with *d* equal to or greater than 1 mm and *D* greater than 2 mm

3.9
all-in aggregate
aggregate consisting of a mixture of coarse and fine aggregates with *D* greater than 6,3 mm