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täitematerjalid**

Aggregates for bituminous mixtures and surface  
treatments for roads, airfields and other  
trafficked areas

**EESTI STANDARDI EESSÕNA****NATIONAL FOREWORD**

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<p>Standard on kinnitatud Eesti Standardikeskuse 18.10.2002 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p>	<p>This standard is ratified with the order of Estonian Centre for Standardisation dated 18.10.2002 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p>
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ICS 91.100.15; 93.080.20

English version

## Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas

Granulats pour mélanges hydrocarbonés et pour enduits superficiels utilisés dans la construction des chaussées, aérodromes et d'autres zones de circulation

Gesteinskörnungen für Asphalt und Oberflächenbehandlungen für Straßen, Flugplätze und andere Verkehrsflächen

This European Standard was approved by CEN on 5 May 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.



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## Foreword

This document (EN 13043:2002) 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of an identical text or by endorsement, at the latest by March 2003, and conflicting national standards shall be withdrawn at the latest by June 2004.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(s).

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

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

- prEN 12620, *Aggregates for concrete*
- EN 13139, *Aggregates for mortar*
- EN 13055-1, *Lightweight aggregates - Part 1: Lightweight aggregates for concrete, mortar and grout*
- prEN 13055-2, *Lightweight aggregates -Part 2 Lightweight aggregates for unbound and bound applications*
- prEN 13242, *Aggregates for unbound and hydraulic bound materials for use in civil engineering work and road construction*
- EN 13383-1, *Armourstone Part 1: Specification*
- prEN 13450, *Aggregates for railway ballast*

Annex A is informative and annex B is normative.

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 and filler aggregates obtained by processing natural or manufactured or recycled materials for use in bituminous mixtures and surface treatments for roads, airfields and other trafficked areas. This standard does not cover the use of reclaimed bituminous mixtures.

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, could have other characteristics not included in Mandate M 125 that do not apply to the generality of aggregate 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 prEN 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 196-2:1994	<i>Methods of testing cement — Part 2: Chemical analysis of cement.</i>
EN 196-6	<i>Methods of testing cement — Part 6: Determination of fineness.</i>
EN 196-21	<i>Methods of testing cement — Part 21: Determination of the chloride, carbon dioxide and alkali content of cement.</i>
EN 459-2	<i>Building lime — Part 2: Test methods.</i>
EN 932-3	<i>Tests for general properties of aggregates — Part 3: Procedure and terminology for simplified petrographic description.</i>
EN 932-5	<i>Tests for general properties of aggregates — Part 5: Common equipment and calibration.</i>
EN 933-1:1997	<i>Tests for geometrical properties of aggregates — Part 1: Determination of particle size distribution – Sieving method.</i>
EN 933-3	<i>Tests for geometrical properties of aggregates — Part 3: Determination of particle shape of aggregates - Flakiness index.</i>
EN 933-4	<i>Tests for geometrical properties of aggregates — Part 4: Determination of particle shape of aggregates - Shape index.</i>
EN 933-5	<i>Tests for geometrical properties of aggregates — Part 5: Determination of percentage of crushed and broken surfaces in coarse aggregate particles.</i>
EN 933-6:2001	<i>Tests for geometrical properties of aggregates — Part 6: Assessment of surface characteristics – Flow coefficient of aggregates.</i>
EN 933-9	<i>Tests for geometrical properties of aggregates — Part 9: Assessment of fines - Methylene blue test.</i>
EN 933-10	<i>Tests for geometrical properties of aggregates — Part 10: Determination of fines - Grading of fillers (air jet sieving).</i>

EN 1097-1	<i>Tests for mechanical and physical properties of aggregates — Part 1: Determination of the resistance to wear (micro-Deval).</i>
EN 1097-2:1998	<i>Tests for mechanical and physical properties of aggregates — Part 2: Methods for the determination of resistance to fragmentation.</i>
EN 1097-3:1998	<i>Tests for mechanical and physical properties of aggregates — Part 3: Determination of loose bulk density and voids.</i>
EN 1097-4	<i>Tests for mechanical and physical properties of aggregates — Part 4: Determination of the voids of dry compacted filler.</i>
EN 1097-5	<i>Tests for mechanical and physical properties of aggregates — Part 5: Determination of water content by drying in a ventilated oven.</i>
EN 1097-6:2000	<i>Tests for mechanical and physical properties of aggregates — Part 6: Determination of particle density and water absorption.</i>
EN 1097-7	<i>Tests for mechanical and physical properties of aggregates — Part 7: Determination of the particle density of filler — Pyknometer method.</i>
EN 1097-8:1999	<i>Tests for mechanical and physical properties of aggregates — Part 8: Determination of the polished stone value.</i>
EN 1097-9	<i>Tests for mechanical and physical properties of aggregates — Part 9: Determination of the resistance to wear by abrasion from studded tyres — Nordic test.</i>
EN 1367-1:1999	<i>Tests for thermal and weathering properties of aggregates — Part 1: Determination of resistance to freezing and thawing.</i>
EN 1367-2	<i>Tests for thermal and weathering properties of aggregates — Part 2: Magnesium sulphate test.</i>
EN 1367-3	<i>Tests for thermal and weathering properties of aggregates — Part 3: Boiling test for "Sonnenbrand" basalt.</i>
EN 1367-5	<i>Tests for thermal and weathering properties of aggregates — Part 5: Determination of resistance to thermal shock.</i>
EN 1744-1:1998	<i>Tests for chemical properties of aggregates — Part 1: Chemical analysis.</i>
prEN 1744-4:2001	<i>Tests for chemical properties of aggregates — Part 4: Determination of water susceptibility of fillers for bituminous mixtures.</i>
prEN 12697-11:2000	<i>Bituminous mixtures – Test methods for hot mix asphalt — Part 11: Determination of the compatibility between aggregate and bitumen.</i>
EN 13179-1	<i>Tests for filler aggregate for bituminous mixtures — Part 1: Delta ring and ball test.</i>
EN 13179-2	<i>Tests for filler aggregate for bituminous mixtures — Part 2: Bitumen number.</i>
ISO 565:1990	<i>Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings.</i>

### 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. Aggregate may be natural, manufactured or recycled