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Lightweight aggregates

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. 10/16

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EUROPEAN STANDARD
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EN 13055

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Supersedes EN 13055-1:2002, EN 13055-2:2004

English Version

Lightweight aggregates

Granulats légers

Leichte Gesteinskörnungen

This European Standard was approved by CEN on 18 March 2016.

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.

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

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European foreword

This document (EN 13055:2016) 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of an identical text or by endorsement, at the latest by November 2016, and conflicting national standards shall be withdrawn at the latest by February 2018.

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 supersedes EN 13055-1:2002 and EN 13055-2:2004.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports basic work requirements of EU Regulation.

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

The most significant changes compared to the previous editions include:

a) Merging of the former 2 parts and simplifying the title of the standard;

b) Amending terminology and Annex ZA to be consistent with the Construction Products Regulation;

c) Clarifying the scope of the standard to cover construction products only;

d) Adding a new normative Annex A dealing with all source materials considered to be within the scope;

e) Referring certain recycled aggregates and MIBA to other aggregate standards (same product family);

f) Referring certain LWA for specific applications to other aggregate standards in a new normative Annex B;

g) Replacement of 3 former test method annexes with normative references to new, separate EN test method standards;

h) Reorganisation and alignment of text in subclauses under Clause 5 Product characteristics;

i) Adding a new general clause on dangerous substances;

j) Replacement of former clause on Evaluation of Conformity, and the normative text from the former annex on Factory Production Control, with new normative clauses on Assessment and Verification of Constancy of Performance;

k) Adding a new informative Annex D describing a test method for determination of water absorption for fine LWA.

No changes to existing technical classes and/or threshold levels have been made.

Characteristics for other aggregates are 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 13139, *Aggregates for mortar,*

— EN 13242, *Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction,*

— EN 13383-1, *Armourstone - Part 1: Specification,*

— EN 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, 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.

1 Scope

This European Standard specifies the properties of Lightweight Aggregates (LWA) and fillers derived thereof obtained by processing natural or manufactured materials and mixtures of these aggregates for concrete, mortar and grout, bituminous mixtures and surface treatments and for unbound and hydraulically bound applications in construction works.

This European Standard covers LWA of mineral origin having particle densities not exceeding 2000 kg/m^3 (2,000 Mg/m^3) or loose bulk densities not exceeding 1200 kg/m^3 (1,200 Mg/m^3) including:

a) natural LWA;

b) LWA manufactured from natural materials;

c) LWA manufactured from by-products of industrial processes or from recycled source materials;

d) LWA as by-products of industrial processes.

A list of source materials and specific materials, which are within the scope of this standard, is given in Annex A (normative).

NOTE Recycled aggregates from construction and demolition waste and Municipal Solid Waste Incinerator Bottom Ash (MIBA) are covered by EN 12620, EN 13043, EN 13139 and EN 13242.

Some LWA for specific applications are covered in separate European product Standards (Annex B, normative).

The requirements specified in this European Standard may not be equally relevant to all types of LWA. For particular applications, the requirements and tolerances can be adapted for the end use.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 932-1, *Tests for general properties of aggregates — Part 1: Methods for sampling*

EN 932-2, *Tests for general properties of aggregates — Part 2: Methods for reducing laboratory samples*

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 933-10, *Tests for geometrical properties of aggregates — Part 10: Assessment of fines — Grading of filler aggregates (air jet sieving)*

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

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

EN 1097-3, *Tests for mechanical and physical properties of aggregates — Part 3: Determination of loose bulk density and voids*

EN 1097-4, *Tests for mechanical and physical properties of aggregates — Part 4: Determination of the voids of dry compacted filler*

EN 1097-5, *Tests for mechanical and physical properties of aggregates — Part 5: Determination of the water content by drying in a ventilated oven*

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

EN 1097-8, *Tests for mechanical and physical properties of aggregates — Part 8: Determination of the polished stone value*

EN 1097-9, *Tests for mechanical and physical properties of aggregates — Part 9: Determination of the resistance to wear by abrasion from studded tyres - Nordic test*

EN 1097-10, *Tests for mechanical and physical properties of aggregates — Part 10: Determination of water suction height*

EN 1097-11, *Tests for mechanical and physical properties of aggregates — Part 11: Determination of compressibility and confined compressive strength of lightweight aggregates*

EN 1367-5, *Tests for thermal and weathering properties of aggregates — Part 5: Determination of resistance to thermal shock*

EN 1367-7, *Tests for thermal and weathering properties of aggregates — Part 7: Determination of resistance to freezing and thawing of Lightweight aggregates*

EN 1367-8, *Tests for thermal and weathering properties of aggregates — Part 8: Determination of resistance to disintegration of Lightweight Aggregates*

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*

EN 12664, *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Dry and moist products of medium and low thermal resistance*

EN 12667, *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Products of high and medium thermal resistance*

EN 12697-11, *Bituminous mixtures — Test methods for hot mix asphalt — Part 11: Determination of the affinity between aggregate and bitumen*

EN 13179-1, *Tests for filler aggregate used in bituminous mixtures — Part 1: Delta ring and ball test*

EN 13286-7, *Unbound and hydraulically bound mixtures — Part 7: Cyclic load triaxial test for unbound mixtures*

EN ISO 10456, *Building materials and products — Hygrothermal properties —Tabulated design values and procedures for determining declared and design thermal values (ISO 10456)*