
Agregati za bitumenske zmesi in površinske prevleke za ceste, letališča in druge prometne površine

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

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

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

Ta slovenski standard je istoveten z: FprEN 13043

ICS:

91.100.15	Mineralni materiali in izdelki	Mineral materials and products
93.080.20	Materiali za gradnjo cest	Road construction materials

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

FINAL DRAFT
FprEN 13043

February 2011

ICS 91.100.15

Will supersede EN 13043:2002

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 Oberflächenbehandlung für Straßen, Flugplätze und andere Verkehrsflächen

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 154.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

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

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

	Page
Foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	7
4 Geometrical requirements	8
4.1 General.....	8
4.2 Aggregate sizes	9
4.3 Grading	10
4.3.1 General.....	10
4.3.2 Coarse aggregates.....	11
4.3.3 Fine aggregates	12
4.3.4 All-in aggregates.....	12
4.3.5 Special use aggregates and declared grading categories	12
4.3.6 Grading for added filler	13
4.4 Fines content.....	13
4.5 Fines quality	15
4.6 Particle shape of coarse and all-in aggregates	16
4.6.1 Flakiness index and shape index.....	16
4.6.2 Percentage of crushed or broken particles	17
4.6.3 Angularity of fine aggregates	18
5 Physical requirements	18
5.1 General.....	18
5.2 Resistance to fragmentation	19
5.3 Resistance to wear	20
5.4 Particle density and water absorption	20
5.4.1 Particle density	20
5.4.2 Water absorption	21
5.5 Bulk density.....	21
5.6 Resistance to polishing for surface courses	21
5.7 Resistance to surface abrasion.....	21
5.8 Resistance to abrasion from studded tyres to be used for surface courses	22
5.9 Affinity to bituminous binder.....	22
6 Chemical requirements	22
6.1 General.....	22
6.2 Petrographic description	23
6.3 Coarse lightweight contaminants	23
6.4 Constituents which affect the volume stability of blast furnace and steel slag	23
6.4.1 Dicalcium silicate disintegration of air-cooled blast furnace slag	23
6.4.2 Iron disintegration of air-cooled blast furnace slag.....	23
6.4.3 Volume stability of steel slag	23
7 Durability	24
7.1 General.....	24
7.2 Magnesium sulfate soundness of coarse aggregates	24
7.3 Freeze-thaw resistance	25
7.3.1 Water absorption as a screening test for freeze-thaw resistance	25
7.3.2 Resistance to freezing and thawing.....	25
7.3.3 Resistance to freezing and thawing in the presence of salt (extreme conditions).....	26
7.4 "Sonnenbrand" of basalt	26

7.5	Resistance to thermal shock.....	27
8	Requirements for filler aggregate.....	27
8.1	General	27
8.2	Geometrical requirements.....	28
8.2.1	Grading for added filler.....	28
8.2.2	Harmful fines.....	28
8.3	Physical requirements	29
8.3.1	Water content.....	29
8.3.2	Particle density	29
8.3.3	Stiffening properties	29
8.4	Chemical requirements.....	30
8.4.1	Water solubility.....	30
8.4.2	Water susceptibility.....	30
8.4.3	Carbonate content of filler aggregate	30
8.4.4	Calcium carbonate content of limestone filler aggregate	31
8.4.5	Calcium hydroxide content of mixed filler.....	31
8.5	Requirements for consistency of filler production.....	32
8.5.1	General	32
8.5.2	"Bitumen number" of added filler.....	32
8.5.3	Loss on ignition of coal fly ash.....	32
8.5.4	Particle density of added filler	32
8.5.5	Loose bulk density in kerosene.....	33
8.5.6	Specific surface area.....	33
9	Evaluation of conformity	33
10	Designation	33
10.1	Designation and description	33
10.2	Additional information for the description of an aggregate	33
11	Marking and labelling.....	33
Annex A (normative) Source materials considered in the development of FprEN 13043 and their status in respect of the scope of this standard	34	
Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive	38	
Z.A.1	Scope and relevant characteristics	38
Z.A.2	Procedures for attestation of conformity of aggregates and fillers.....	42
Z.A.2.1	Systems of attestation of conformity	42
Z.A.2.2	EC Certificate Declaration of conformity	43
Z.A.3	CE marking and labelling	45

Foreword

This European Standard (FprEN 13043:2011) has been prepared by Technical Committee CEN/TC 154 "Aggregates", the secretariat of which is held by BSI.

This European Standard is currently submitted to the Unique Acceptance Procedure.

This European Standard will supersede EN 13043:2002.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of Council Directive 89/106/EEC.

For relationship with Council Directive 89/106/EEC, see informative Annex ZA, which is an integral part of this document.

Annex A is normative.

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

- EN 12620, *Aggregates for concrete*;
- EN 13055 (all parts), *Lightweight aggregates*;
- 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*.

Considering evaluation of conformity, see FprEN 16236, *Evaluation of conformity of aggregates*.