



SLOVENSKI STANDARD
SIST-TS CEN/TS 17438:2020

01-september-2020

Izvorni materiali, obravnavani pri pripravi standardov tehničnega odbora CEN/TC 154 za agregate

Source materials considered in the development of the Aggregate standards of TC 154

Bei der Erarbeitung der Normen für Gesteinskörnungen des CEN/TC 154 betrachtete Ausgangsstoffe

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ICS:

91.100.15 Mineralni materiali in izdelki Mineral materials and products

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TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 17438

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ICS 91.100.15

English Version

**Source materials considered in the development of the
Aggregate standards of TC 154**

Matières premières secondaires prises en compte dans
l'élaboration des normes granulats du CEN/TC 154

Bei der Erarbeitung der Normen für
Gesteinskörnungen des CEN/TC 154 betrachtete
Ausgangsstoffe

This Technical Specification (CEN/TS) was approved by CEN on 29 December 2019 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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

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European foreword

This document (CEN/TS 17438:2020) has been prepared by Technical Committee CEN/TC 154 “Aggregates”, the secretariat of which is held by BSI.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

CEN/TC 154 intends to keep this document under continual review. Any relevant information to assist in the updating, including any proposal for the incorporation of new source material types, can be submitted to the secretariat of CEN/TC 154. The procedure for inclusion of new source materials is described in Clause 6.

Source materials not described in this document can still be used as an aggregate, but the applicant will be aware that the relevant standard will not necessarily include all relevant aspects for use.

Due to the dynamic character of this document, no reference from the TC 154 Aggregate standards towards this document is made with regard to the scope of these standards.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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CEN/TS 17438:2020 (E)**1 Scope**

This document informs users about the source materials that have been considered in the development of the aggregate 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: Product standard*;
- EN 13450, *Aggregates for railway ballast*;
- EN 13055, *Lightweight aggregates*;

Only source materials with a history of use in one or more member states are included in this document. It also specifies source materials with a history of use for the scope of only one specific aggregate standard.

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2 Normative references

There are no normative references in this document.

3 Terms, definitions, symbols and abbreviations**3.1 Terms and definitions**

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1.1**aggregate**

granular material of natural, manufactured or recycled origin used in construction

3.1.2**lightweight aggregate****LWA**

granular material of mineral origin having a particle density not exceeding 2 000 kg/m³ (2,00 Mg/m³) or a loose bulk density not exceeding 1 200 kg/m³ (1,20 Mg/m³)

3.1.3**manufactured aggregates**

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

3.1.4**natural aggregate**

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

3.1.5**recycled aggregates**

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

Note 1 to entry: Recycled aggregates can also be obtained from production residues or nonconforming products, e.g. crushed unused concrete.

4 Source materials for aggregates**4.1 Source materials with a history of use**

All source materials which have been considered in the preparation of aggregate standards EN 12620, EN 13043, EN 13139, EN 13242, EN 13383-1 and EN 13450 are listed in Table 1.

In some member states, there are additional requirements for the use of secondary aggregates. These additional requirements are summarized in Table 2. It is advised to control all relevant specific requirements in accordance with requirements at the place of use.

Table 1 — Inventory list with classification codes and status for source materials for aggregates standards by CEN/TC 154

Nr.	Source	Sub-nmbr	Specific material	EN 12620	EN 13043	EN 13139	EN 13242	EN 13383	EN 13450
P	Natural aggregates	P	All rock types included in EN 932-3	Yes	Yes	Yes	Yes	Yes	Yes
A	Construction and demolition recycling industries	A1	Reclaimed asphalt ^a	No	(Yes) ^a	No	Yes	No	No
		A2	Crushed concrete	Yes	No	No	Yes	Yes	No
		A3	Crushed bricks, masonry	Yes	No	No	Yes	No	No
		A4	Hydraulically bound and unbound materials	Yes	No	No	Yes	No	No
		A5	Mix of A1, A2, A3 and A4	Yes	No	No	Yes	Yes ^b	No
		A6	Recycled railway ballast	Yes	Yes	No	Yes	No	Yes
B	Municipal solid waste incineration industry	B1	Municipal incinerator bottom ash ^c (excluding fly ash) (MIBA)	Yes	Yes	No	Yes	No	No

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Nr.	Source	Sub-nmbr	Specific material	EN 12620	EN 13043	EN 13139	EN 13242	EN 13383	EN 13450
		B2	Municipal incinerator fly ash (MIFA)	No	Yes (Only as a component of composite filler ^d)	No	No	No	No
C	Coal power generation industry	C1	Coal fly ash	Yes	Yes	Yes	Yes	No	No
		C2	Fluidized bed combustion fly ash (FBCFA)	No	Yes	No	Yes	No	No
		C3	Boiler slag	Yes	Yes	No	Yes	No	No
		C4	Coal bottom ash	No	No	No	Yes	No	No
		C5	Fluidized bed combustion bottom ash (FBC bottom ash)	No	No	No	Yes	No	No
D	Iron and steel industry	D1	Granulated blast furnace slag (GBS) (vitrified)	Yes	No	No	Yes	No	No
		D2	Air-cooled blast furnace slag (ABS) (crystallized)	Yes	Yes	Yes	Yes	Yes	No
		D3	Basic oxygen furnace slag (converter slag, BOS)	Yes	Yes	No	Yes	Yes	No
		D4	Electric arc furnace slag (from carbon steel production, EAF C)	Yes	Yes	No	Yes	Yes	No
		D5	Electric arc furnace slag (from stainless/high alloy steel production, EAF S)	Yes	Yes	No	Yes	No	No
E	Non-ferrous industry	E1	Copper slag	Yes	Yes	No	Yes	Yes	No
		E2	Molybdenum slag	Yes	Yes	No	Yes	No	No
		E3	Zinc slag	Yes	No	No	Yes	No	No
		E4	Phosphorus slag	No	Yes	No	Yes	Yes	No
		E5	Lead slag	Yes	No	No	No	Yes	No
		E6	Ferrochromium slag	Yes	Yes	No	Yes	No	No
F	Foundry industry	F1	Foundry sand	Yes	Yes	No	Yes	No	No
		F2	Foundry cupola furnace slag	No	Yes	No	Yes	No	No

Nr.	Source	Sub-nbr	Specific material	EN 12620	EN 13043	EN 13139	EN 13242	EN 13383	EN 13450
G	Mining and quarry industry	G1	Red coal shale	No	No	No	Yes	No	No
		G2	Refuse from hard coal mining (black coal shale)	No	No	No	Yes	Yes	No
		G3	Pre-selected all-in from quarry/mining	No	No	No	Yes	No	No
		G4	Spent oil shale	No	No	No	Yes	No	No
H	Maintenance dredging works	H1	Dredge spoil sand	Yes	No	No	Yes	No	No
I	Miscellaneous	I1	Paper sludge ash	Yes	Yes (Only as a component of composite filler ^d)	No	Yes	No	No
		I2	Sewage sludge incineration ash (municipal)	No	Yes (Only as a component of composite filler ^d)	No	Yes	No	No
		I3	Biomass ash	No	Yes (Only as a component of composite filler ^d)	No	Yes	No	No
		I4	Crushed glass	Yes	Yes	No	Yes	No	No

^a Reclaimed Asphalt is an established component for bituminous mixtures but not an aggregate fitting to the scope of this specification.

^b Only A2 and A3.

^c Requirements on MIBA are based on experience with grated installations.

^d Filler aggregate of mineral origin, which has been produced using two or more sources in Table 1.

4.2 Source materials with identified requirements on additional characteristics

In situations where the need for additional requirements has been identified by one or more Member States, this means that these additional requirements are not (yet) included in the relevant standard(s). This means that these sources are only suitable for its intended use when also the identified characteristics in that Member State are taken into account before placed on the market as aggregates. Additional characteristics may be specified on a case by case basis depending upon experience of use of the product, and defined in specific contractual documents.