



NSAI
Standards

Irish Standard
I.S. EN 13450:2013

Aggregates for railway ballast

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I.S. EN 13450:2013

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English Version

Aggregates for railway ballast

Granulats pour ballasts de voies ferrées

Gesteinskörnungen für Gleisschotter

This European Standard was approved by CEN on 22 December 2012.

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.

CEN members are the national standards bodies of 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 United Kingdom.



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Contents

page

Foreword.....	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Geometrical requirements	7
5 Physical requirements	10
6 Chemical requirements	12
7 Durability	13
8 Evaluation of conformity.....	15
9 Designation	15
10 Marking and labelling	16
Annex A (informative) Sampling railway ballast at the construction site either from a railway wagon or from the track.....	17
Annex B (informative) Guidance on interpretation of results when samples of railway ballast have been taken from railway wagon or from track.....	21
Annex C (normative) Conditions to be applied to the test procedure specified in EN 1367-2 for the determination of the resistance of railway ballast to the magnesium sulfate test (see 7.2).....	22
Annex D (normative) Conditions to be applied to the test procedure specified in EN 1367-1 for determination of the resistance to freezing and thawing of railway ballast (see 7.3.2)	24
Annex E (normative) Source materials considered in the development of EN 13450 and their status in respect of the scope of this standard	25
Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive.....	26
Bibliography	33

Foreword

This document (EN 13450:2013) 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 2013, and conflicting national standards shall be withdrawn at the latest by February 2015.

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 13450:2002.

The main changes compared to the previous edition are:

- 1) Updating of the normative references (deletion of the reference to EN 932-5, updating of the references to EN 1367-1:2007 and EN 1367-2:2009 and addition of the references to EN 1367-6 and EN 16236-2013).
- 2) Modification of the definition to "recycled railway ballast".
- 3) Addition of note 3 in Clause 4.
- 4) Modification of Tables 1, 2, 3, 4, 5, 6, 7, 8 and 9 due to changes in the category names.
- 5) Addition of new sub-clauses 7.3 "Freeze-thaw resistance" and 7.4 "Electrical conductivity".
- 6) Modification of sub-clause 7.5 "Sonnenbrand".

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:

- EN 12620, *Aggregates for concrete*;
- EN 13043, *Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas*;
- EN 13055, *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*.

Considering evaluation of conformity see EN 16236, Evaluation of Conformity.

I.S. EN 13450:2013

EN 13450:2013 (E)

According to the CEN/CENELEC Internal Regulations, the national standards organisations 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.

Withdrawn - See I.S. EN 13450:2003

1 Scope

This European Standard specifies the properties of aggregates obtained by processing natural, manufactured or recycled crushed unbound aggregates for use in construction of the upper layer of railway track. For the purposes of this standard, the aggregate is referred to as railway ballast.

A list of the source materials that have been considered and are within the scope of this European Standard is given in Annex E (normative).

NOTE Reused railway ballast: railway ballast resulting of previously used railway ballast on site and without putting it on the market is not covered by this European Standard.

It also specifies that a quality control system is in place for use in factory production control and it provides for the evaluation of conformity of the products to this European Standard.

It incorporates a general requirement that railway ballast should not release any dangerous substances in excess of the maximum permitted levels specified in a relevant European Standard for the material or permitted in the national regulations of the member state of destination.

Railway ballast used in construction should comply with all the requirements of this European Standard. The standard includes comprehensive and specific requirements for natural aggregates and recycled ballast, dealing with, for example, the stability of certain basalts.

For materials from some other secondary sources, however, work is ongoing and the requirements are incomplete. In the meantime such materials, when placed on the market as railway ballast, should conform fully to this standard but may also be required to conform to specific relevant additional requirements at the place of use. Additional characteristics and requirements may be specified on a case by case basis depending upon experience of use of the product, and defined in specific contractual documents.

Requirements for the declaration of the potential of railway ballast to release regulated dangerous substances are currently under development. Until such time as these are finalised, attention should be paid to requirements at the place of 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 932-1:1996, *Tests for general properties of aggregates — Part 1: Methods for sampling*

EN 932-3, *Tests for general properties of aggregates — Part 3: Procedure and terminology for simplified petrographic description*

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

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