



SLOVENSKI STANDARD

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Preskusi splošnih lastnosti agregatov - 2. del: Metode zmanjševanja laboratorijskih vzorcev

Tests for general properties of aggregates - Part 2: Methods for reducing laboratory samples

Prüfverfahren für allgemeine Eigenschaften von Gesteinskörnungen - Teil 2: Verfahren zum Einengen von Laboratoriumsproben

Essais pour déterminer les propriétés générales des granulats - Partie 2: Méthodes de réduction d'un échantillon de laboratoire

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ICS:

91.100.15 Mineralni materiali in izdelki Mineral materials and products

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EUROPEAN STANDARD

EN 932-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Descriptors: aggregates, tests, samples, specimen preparation, reduction methods

English version

Tests for general properties of aggregates - Part 2: Methods for reducing laboratory samples

Essais pour déterminer les propriétés générales des granulats - Partie 2: Méthodes de réduction d'un échantillon de laboratoire

Prüfverfahren für allgemeine Eigenschaften von Gesteinskörnungen - Teil 2: Verfahren zum Einengen von Laboratoriumsproben

This European Standard was approved by CEN on 26 December 1998.

CEN members are bound to comply with the CEN/GENELEC 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This European Standard 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 July 1999, and conflicting national standards shall be withdrawn at the latest by 1st December 2003.

This European Standard is one of a series of standards for tests for general properties of aggregates. Test methods for other properties of aggregates are covered by Parts of the following European Standards:

EN 933	Tests for geometrical properties of aggregates
EN 1097	Tests for mechanical and physical properties of aggregates
EN 1367	Tests for thermal and weathering properties of aggregates
EN 1744	Tests for chemical properties of aggregates
prEN 13179	Tests for filler aggregate used in bituminous mixtures

The other Parts of EN 932 will be:

Part 1: Methods for sampling

Part 3: Procedure and terminology for simplified petrographic description

Part 5: Common equipment and calibration

Part 6: Definitions of repeatability and reproducibility

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, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies methods for reducing laboratory samples of aggregates to test portions, when the test portion mass is:

- specified by a lower limit on the mass;
- specified by a tolerance around a target mass;
- determined precisely by the requirements of a test method.

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.

EN 932-1 Tests for general properties of aggregates - Part 1: Methods for sampling.

prEN 932-5 Tests for general properties of aggregates - Part 5: Common equipment and calibration

3 Definitions and symbols

3.1 Definitions <https://standards.iteh.ai/catalog/standards/sist/49db5f9b-c861-4a27-ac26-8afc55eab830/sist-en-932-2-1999>

For the purposes of this European Standard, the following definitions apply:

3.1.1 laboratory sample: Sample intended for laboratory testing.

3.1.2 subsample: Sample obtained by means of a sample reduction procedure.

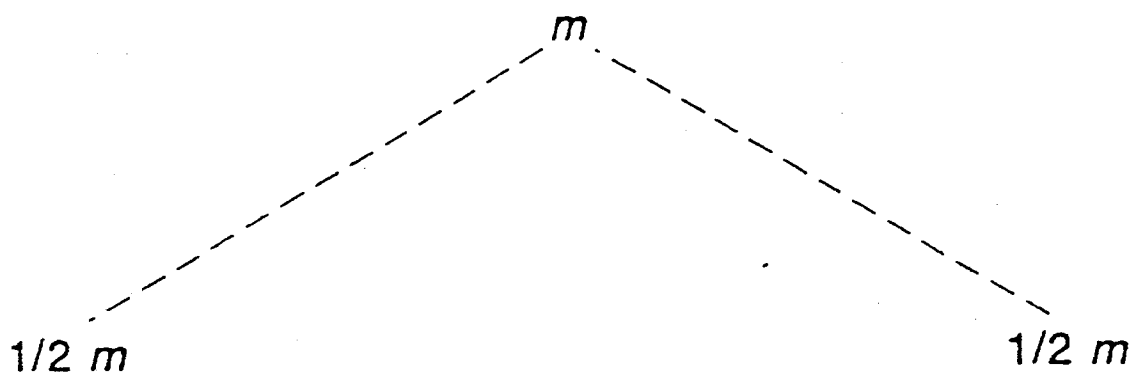
3.1.3 test portion: Subsample used as a whole in a single test.

3.1.4 test specimen: Sample used in a single determination when a test method requires more than one determination of a property.

3.1.5 1/2 division: Division of a sample into two subsamples of approximately equal mass, (see figure 1).

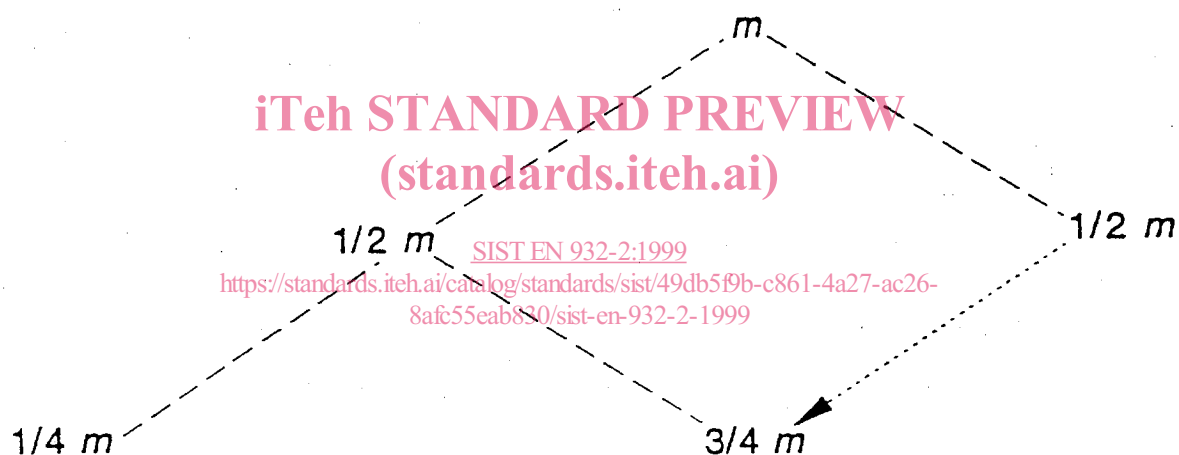
3.1.6 3/4 division: Division of a sample into two subsamples, with masses approximately 3/4 and 1/4 times the mass of the original sample (see figure 2).

3.1.7 5/8 division: Division of a sample into two subsamples with masses approximately 5/8 and 3/8 times the mass of the original sample (see figure 3).



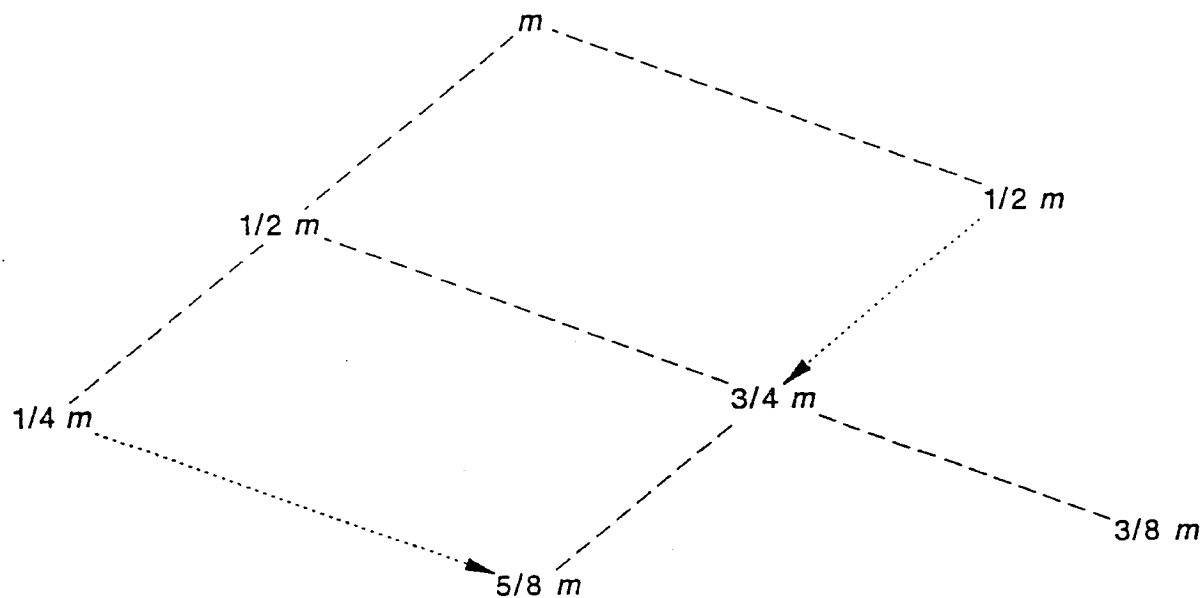
NOTE: The dashed lines denote dividing of a sample into two subsamples.

Figure 1: 1/2 division



NOTE: The dashed lines denote dividing of a sample into two subsamples. A dotted line denotes the addition of a subsample retained from a previous division stage.

Figure 2: 3/4 division



NOTE: The dashed lines denote dividing of a sample into two subsamples. A dotted line denotes the addition of a subsample retained from a previous division stage

Figure 3 : 5/8 division

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3.2 Symbols

- m_L laboratory sample mass (in grams or kilograms).
 m_S subsample mass (in grams or kilograms).
 m_T specified test portion mass (in grams or kilograms).

4 Principle

The procedures given in this European Standard are designed so that test portions are obtained by the minimum number of division steps, and so that, as far as possible, the operator is prevented from making small adjustments to the test portion and from choosing the particles that go into the test portion.

5 Apparatus

Apparatus shall be as specified in EN 932-1 with the addition of suitable apparatus for crushing and grinding. All apparatus shall comply with the general requirements of prEN 932-5.

NOTE: In all cases, alternative designs may be used so long as the essential dimensions of width of opening and length are met, and the devices can be used to fulfil the sample reduction methods specified in clauses 7 to 13.

6 Consideration before sample reduction

6.1 Moisture content and homogeneity of the sample

When the moisture content of an aggregate is to be determined, one or more test portions shall be taken prior to drying. A riffle box or a mechanical divider shall not be used.

When test portions are required for other purposes than moisture content and a riffle box or mechanical divider is to be used, the laboratory sample shall be brought to a condition in which it is free-flowing.

NOTE 1: For aggregates containing fines that segregate when dry, or for aggregates containing lumps of clay visible to the naked eye, it is recommended that they are subjected to sample reduction in the condition in which they are received at the laboratory, not dried.

NOTE 2: If on the basis of visual inspection, the laboratory sample needs mixing, then this should be performed on a sampling tray. For aggregate that contains a wide range of particle sizes it can be desirable to separate the laboratory sample into two (or more) fractions by sieving and to treat each fraction to sample reduction separately.

6.2 Test methods that specify only a lower limit to the test portion mass

For test methods that specify only a minimum mass (m_T) for the test portion or each of several test specimens one of the following procedures to yield 100 % to 150 % of the specified mass shall be used:

- a) sample reduction using a rotary sample divider (see clause 7);
- b) sample reduction using a riffle box (see clause 8);
- c) sample reduction using fractional shovelling (see clause 9);
- d) sample reduction by quartering (see clause 10).

NOTE: a) above is the preferred procedure and d) is not recommended for wide gradings.

6.3 Test methods that allow a sizeable tolerance round a target mass

For test methods which require a test portion mass suited to the capacity of the equipment that is used, but can allow a sizeable tolerance around the test portion mass (for example, determination of water-soluble sulfates), one of the following procedures that gives a test portion mass within ± 15 % of the specified mass shall be used:

- a) sample reduction using a rotary sample divider (see clause 7);
- b) sample reduction using a riffle box (see clause 8);
- c) sample reduction using fractional shovelling (see clause 9).

NOTE: a) above is the preferred procedure.

6.4 Test methods that specify a test portion mass within a small tolerance

For the following types of test methods which require a test portion mass to be within a small tolerance of a specified mass, the procedure specified in clause 11 shall be used:

- a) test methods for which the test portion mass is determined by the capacity of a container used in the test (for example, bulk density).