

Fertilizer - Determination of bulk density (loose) of fine-grained fertilizers

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 7837:2003 sisaldab Euroopa standardi EN ISO 7837:2000 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 14.08.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 7837:2003 consists of the English text of the European standard EN ISO 7837:2000.</p> <p>This document is endorsed on 14.08.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This International Standard specifies a method for the determination of the bulk density (loose) of solid fine-grained fertilizers</p>	<p>Scope: This International Standard specifies a method for the determination of the bulk density (loose) of solid fine-grained fertilizers</p>
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ICS 65.080

Võtmesõnad:

ICS 65.080

English version

Fertilizers

Determination of bulk density (loose) of fine-grained
fertilizers

(ISO 7837 : 1992)

Engrais – Détermination de la masse
volumique sans tassement des
engrais fins (ISO 7837 : 1992)

Düngemittel – Bestimmung der
Schüttdichte feinkörniger
Düngemittel (ISO 7837 : 1992)

This European Standard was approved by CEN on 2000-01-03.

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 Central Secretariat or to any CEN member.

The European Standards exist 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

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 7837 : 1992 Fertilizers – Determination of bulk density (loose) of fine-grained fertilizers, which was prepared by ISO/TC 134 'Fertilizers and soil conditioners' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 260 'Fertilizers and liming materials', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by August 2000 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 7837 : 1992 was approved by CEN as a European Standard without any modification.

Introduction

A method for the determination of the bulk density (loose) of solid fertilizers having particle sizes within the frequently encountered range from about 0,5 mm to 5 mm is specified in ISO 3944:1992, *Fertilizers — Determination of bulk density (loose)*. This method is not, however, suitable for fine-grained fertilizers having a large proportion of particles of diameters less than 0,5 mm. Such fertilizers pass with difficulty, in most cases, from the specified funnel into the measuring cylinder, generally cause considerable dust nuisance, and are inclined to form hollow spaces (air cavities) within their bulk volume. The bulk density values obtained are, thus, too low.

In the case of fine-grained fertilizers, therefore, it is necessary to use a dust-tight, non-clogging apparatus, with a relatively wide measuring cylinder.

1 Scope

This International Standard specifies a method for the determination of the bulk density (loose) of solid fine-grained fertilizers.

The method is applicable to fertilizers which contain a large proportion of particles of diameters less than 0,5 mm.

NOTE 1 For fertilizers which contain a large proportion of particles of diameters within the range from 0,5 mm to 5 mm, a method is specified in ISO 3944.

The method is applicable to dry fertilizers only. If the fertilizer has absorbed moisture during transport or storage, it is necessary to dry it in an environmental chamber, with constant low humidity, prior to the determination.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 7742:1988, *Solid fertilizers — Reduction of samples*.

ISO 8358:1991, *Solid fertilizers — Preparation of samples for chemical and physical analysis*.

3 Definition

For the purposes of this International Standard, the following definition applies.

3.1 bulk density (loose) of a fertilizer: The mass per volume of a material after it has been tipped freely into a container under specified conditions.

The bulk density (loose) is expressed in grams per cubic centimetre (g/cm^3).

4 Principle

Pouring of the fertilizer from a specified filling device into a specified measuring cylinder of known volume and weighing of the contents of the cylinder.

5 Apparatus

5.1 Balance, capable of weighing to the nearest 1 g.

5.2 Apparatus for determination of bulk density (loose), having the approximate dimensions given in figure 1 and consisting of the following.

5.2.1 Filling device (4) with spring-suspended locking lever (5), for holding or loosening the hinged cover. The hinged cover is opened by manipulating the lever so that the contents of the filling device discharge into the measuring cylinder.

CAUTION — It is important that those parts of the apparatus which are in contact with the fertilizer are made of corrosion-resistant material (glass, plastics, etc.).

5.2.2 Measuring cylinder (1), of capacity $1\,000\text{ cm}^3 \pm 5\text{ cm}^3$.

5.2.3 Intermediate piece (2) with hinged cover (3).