SLOVENSKI STANDARD
SIST EN 1482-3:2017

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Gnojila in sredstva za apnjenje - Vzorčenje in priprava vzorcev - 3. del: Vzorčenje statičnih kupov

Fertilizers and liming materials - Sampling and sample preparation - Part 3: Sampling of static heaps

Düngemittel und Kalkdünger - Probenahme und Probenvorbereitung - Teil 3: Probenahme aus statischen Haufwerken

Engrais et amendements minéraux basiques - Échantillonnage et préparation de l'échantillon - Partie 3 : Échantillonnage des tas statiques

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65.080	Gnojila	Fertilizers

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EUROPEAN STANDARD

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English Version

Fertilizers and liming materials - Sampling and sample preparation - Part 3: Sampling of static heaps

Engrais et amendements minéraux basiques - Échantillonnage et préparation de l'échantillon - Partie 3 : Échantillonnage des tas statiques

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This European Standard was approved by CEN on 12 June 2016.

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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.

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

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European foreword

This document (EN 1482-3:2016) has been prepared by Technical Committee CEN/TC 260 “Fertilizers and liming materials”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by February 2017, and conflicting national standards shall be withdrawn at the latest by February 2017.

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.

EN 1482 “Fertilizers and liming materials — Sampling and sample preparation” consists of three parts:

— Part 1: Sampling;

— Part 2: Sample preparation;

— Part 3: Sampling of static heaps.

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.

Introduction

The establishment of European Standards for methods of sampling and analysis is of utmost importance to guarantee a uniform application and control of the European legislation in all Member States. Standardized methods of sampling and analysis are essential elements in guaranteeing a high level of quality and safety of EC fertilizers for the benefit of purchasers. In order to avoid any improper use of the term “EC fertilizer” Member States are required to check the nutrient content of such fertilizers. To achieve this, representative sampling is essential for reliable analytical results.

Competent authorities have limited resources for conformity assessment and these are most efficiently deployed at the downstream end of the supply chain. The purpose of Regulation (EC) No 2003/2003 [1] is to ensure that the fertilizer meets European requirements and complies with the declaration of the required characteristics applied to it when delivered to a purchaser. EN 1482-1:2007 might not fully satisfy the needs of Member States when a large quantity of fertilizer is stored in a static heap that cannot be realistically put into motion. An evaluation was requested to be carried out by CEN to see what, if any, static heaps of fertilizer could be representatively sampled at affordable costs see (see [3]).

The fundamental principle of representative sampling is that every particle has an equal chance of being sampled. This principle cannot easily be complied with in the case of bulk static heaps of solid fertilizers as a large proportion of the material cannot practically be reached by any sampling device. Wherever possible, this fertilizer should be sampled during transfer, during the building up of the heap, during dispatch or where it can practically be moved solely for sampling purposes. However, in some cases, sampling in the way described is not practicable. The European Commission asked CEN/TC 260/WG 1 to draft a European Standard in response to mandate M/454, which requires the development of a method of sampling static heaps that could not be sampled according to EN 1482-1:2007. This states that the sampling of static heaps should only be carried out when the product is in motion.

In response to the mandate, sampling methods to sample static heaps have been developed and standardized as specified in this document.

1 Scope

This European Standard is applicable to the sampling of mineral fertilizers and liming materials supplied or ready for supply to third parties, as a lot or in smaller lots, where such supply or readiness for supply is subject to legal requirements.

This European Standard specifies plans and methods of sampling of a lot of solid fertilizer or liming material, if sampling in motion is not possible, to obtain samples from static bulk heaps in order to ascertain compliance with legal requirements, in particular in relation to the accuracy of compulsory or permitted statutory declarations. The methods specified in this document are not applicable to obtain samples for physical analysis or for the chemical analysis which may be altered by particle granulometric segregation.

This European Standard is applicable to single nutrient fertilizers, to uniform complex fertilizers and to milled or granulated liming materials.

The methods described in this document are not suitable for sampling other types of fertilizer, for example blended fertilizers.

NOTE The term 'fertilizer' is used throughout the body of this European Standard and includes liming materials unless otherwise indicated.

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 1482-1:2007, *Fertilizers and liming materials - Sampling and sample preparation - Part 1: Sampling*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1482-1:2007 and the following apply.

3.1
fertilizer
solid inorganic material designated for use as a fertilizer including liming materials

3.2
sampling point
point in the sampling unit from which a sub-sample is taken

Note 1 to entry: For the definition of sub-sample, see EN 1482–1:2007, Note in 3.5.

3.3
static heap
quantity of fertilizer stored in bulk in a single mass

4 Sampling plans and quantitative data

4.1 General

The objective of sampling is to acquire a sample of the lot to establish its composition and properties. The methods to be used for sampling static heaps are specified in the following clauses.

4.2 Characterization of the lot to be sampled

Before a sampling plan is determined, a description of the characteristics of the lot that is intended to be sampled shall be undertaken. In particular, the following physical characteristics shall be noted:

— kind/type,

— texture,

— colour,

— storage conditions, e.g. uncovered/covered,

— foreign matters.

If the owner of the material is applying the same description and statutory information to the whole lot, sampling should proceed in accordance with this document. Only if there is evidence of deterioration or contamination should consideration be given to the dividing of the lot into parts from which separate samples should be taken.

4.3 Sampling plan

4.3.1 General

The sampling plan shall be determined after the characteristics according to 4.2 have been considered. Any variations from the stated sampling plan shall be documented in written form.

The sampling plan shall define the course of the sampling process, and associated provisions, in reproducible manner.

Sampling only around the base of the heap or from a single part of the heap does not supply a representative sample.

4.3.2 Elements of the sampling plan

Within the sampling plan, the following elements shall be stated:

— boundary of the lot,

— determination of the volume/mass of the lot,

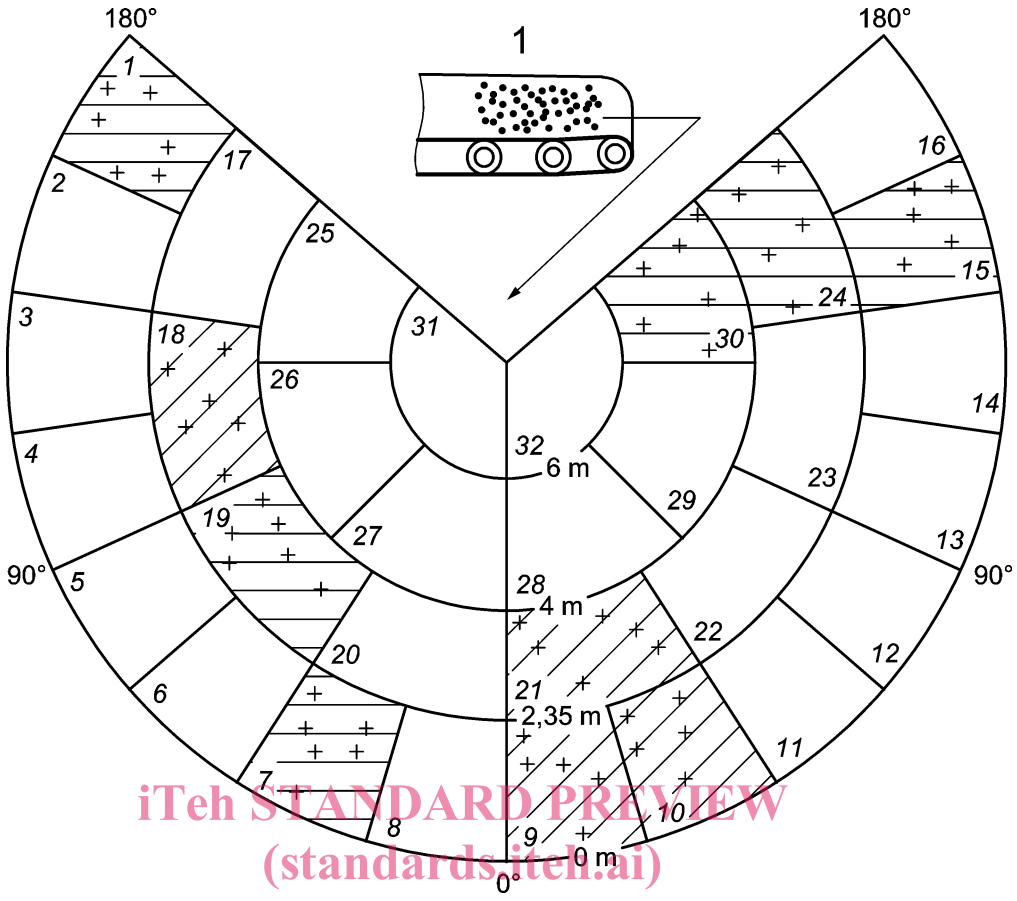
— determination of the number and location of sampling units,

— determination of sampling units from which the increments shall be taken,

— if necessary, preparation of a sketch-map of the sampling areas (see Figure 1),

— determination of the minimum number of sampling points from which sub-samples are to be taken to form the incremental sample,

— determination of minimum volume/mass of increments.



Key

1	conveyor belt
1 to 32	number of sampling units of equivalent surface
▨	10 random selected sampling units for sampling
+	sampling points (random distribution in the sampling unit)
top ring	2 sampling units (180° each)
second ring	6 sampling units (60° each)
third ring	8 sampling units (45° each)
fourth ring	16 sampling units (22,5° each)

Characteristics of the heap:

angle of repose:	36 °
base diameter:	12 m
height:	5,3 m
circumference:	37,70 m
ridge:	8 m
volume:	200 m^3

Figure 1 — Example of sampling plan for a conical heap (developed)