



SLOVENSKI STANDARD
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**Gnojila, sredstva za apnjenje in inhibitorji - Vzorčenje in priprava vzorcev - 3. del:
Vzorčenje statičnih kupov**

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

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

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ICS:

65.080 Gnojila Fertilizers

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

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

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 260.

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

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European foreword

This document (prEN 1482-3:2023) has been prepared by Technical Committee CEN/TC 260 “Fertilizers and liming materials”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 1482-3:2016.

In comparison with the previous edition, the following technical modifications have been made:

— Title, Introduction, Scope, Normative References, Terms and definitions have been updated.

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

- Part 1: General sampling provisions;
- Part 2: General sample preparation provisions;
- Part 3: Sampling of static heaps;
- Part 4: Sampling for microbiological presence in fertilizers.

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

[oSIST prEN 1482-3:2023](https://standards.iteh.ai/catalog/standards/sist/78c3dcf9-de74-4f3c-a718-74ecc3c88f2d/osist-pren-1482-3-2023)

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prEN 1482-3:2023 (E)**Introduction**

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

Standardized methods of sampling and analysis are essential in uniformly establishing the compliance of fertilizing products with legal requirements, as well as any information and/or declarations given on their supply or readiness for supply.

The aim of these standardized methods is to obtain a representative sample of the whole batch supplied or ready for supply. General methods to obtain such a sample are given in prEN 1482-1. It is under investigation whether this standard covers organic and organo-mineral fertilizers.

However, where the product is stored in large static heaps it is not always possible or practical to put the product into motion for a sampling method according to EN 1482-1 to be used. Research has found that for a limited number of types of products a representative sample can be obtained by sampling directly from the static heap.

This document describes the method to be used for sampling static heaps of the specified products within its scope.

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1 Scope

This document is applicable to the sampling of the following solid inorganic fertilizers and liming materials supplied or ready for supply, and stored in static heaps:

- Single nutrient fertilizers,
- Uniform complex fertilizers,
- Milled, granulated or dredged liming materials,
- Any other materials deemed suitable for sampling by the method described in this part of the standard,

for the purpose of testing for compliance with legal requirements and other descriptions and declarations.

NOTE 1 The term “fertilizer” is used throughout the body of this document and includes liming materials and inhibitors unless otherwise indicated.

NOTE 2 Manufacturers, importers and sellers might choose to use this method to obtain samples of other products or blends as well as long as both parties to a transaction agree. The build-up of a static heap often leads to granulometric segregation, which makes the collection of a truly representative sample unlikely.

NOTE 3 It is the responsibility of manufacturers, importers and sellers, however, to ensure they supply a product that complies with its label declaration at the moment of delivery and fulfils the expectations of the end user at the moment of application.

2 Normative references

[oSIST prEN 1482-3:2023](#)

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

prEN 1482-1:2023, *Fertilizers, liming materials and inhibitors — Sampling and sample preparation — Part 1: General sampling provisions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in prEN 1482-1:2023 and the following apply.

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

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

3.1

sampling unit

area of the surface of the material in the static heap

3.2

sampling point

point in the sampling unit

prEN 1482-3:2023 (E)**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.

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

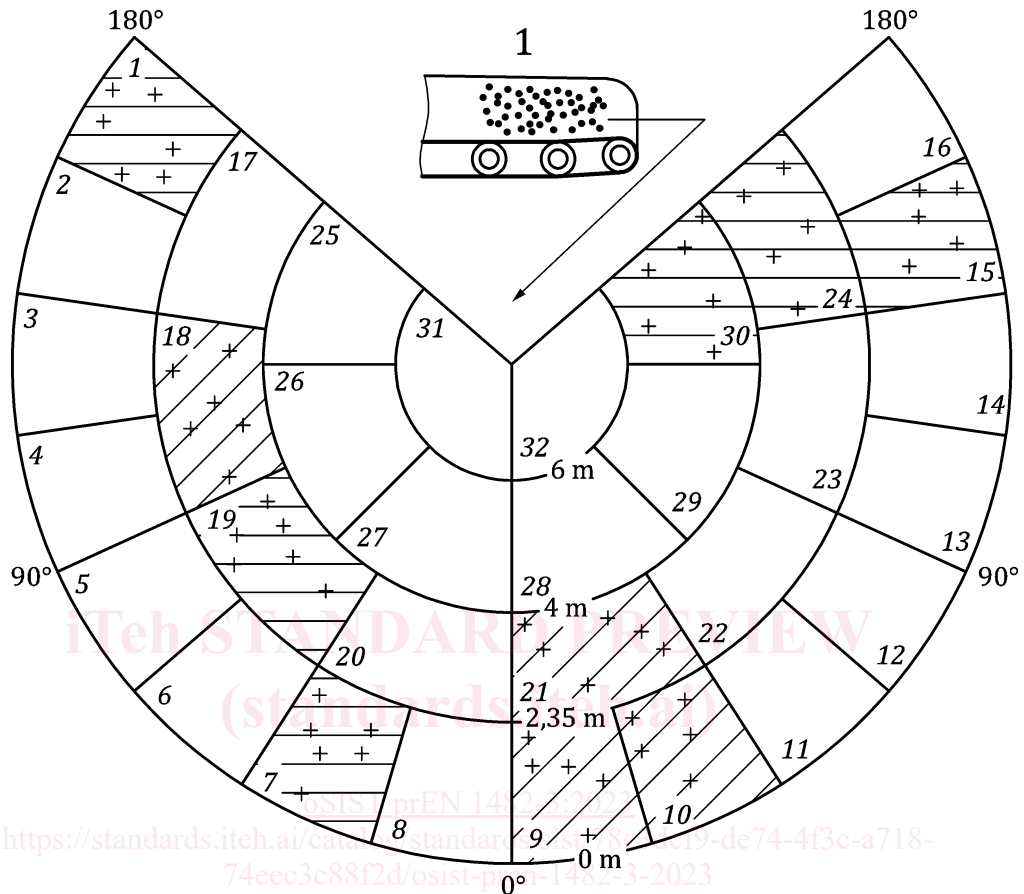
Sampling only around the base of the heap or from a single part of the heap does not supply a representative sample.

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 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)

prEN 1482-3:2023 (E)**4.4 Determination of the volume/mass of the lot**

The volume/mass of the lot should either be determined by reference to production/purchase/sales records of the owner or, if this is not possible, shall be estimated using known mathematical formulae, examples of which can be found in Annex A.

4.5 Determination of sampling units and sampling points**4.5.1 Determination of the number and location of the sampling units**

The total minimum number of sampling units depends on the size of the lot. Each sampling unit will be represented by approximately the same surface area.

4.5.2 Minimum total number of sampling units

The total number of sampling units into which the lot has to be divided shall be determined in accordance with Table 1.

Table 1 — Number of sampling units that the lot needs be divided into

Lot size t	Minimum number of sampling units
25 or less	10
More than 25 and up to 400	The nearest whole even number above the square root of 4 times the quantity, in tonnes, present
More than 400	40

4.5.3 Determination of sampling units from which incremental samples shall be taken

Select randomly a minimum of 10 sampling units from the total number of sampling units determined in accordance with 4.5.2 using random number tables or a random number generator. Incremental samples shall be taken from the selected sampling units.

4.5.4 Determination of the minimum number of sampling points from which samples are to be taken

The number of samples to be taken from the material in the selected sampling units shall be determined by reference to the minimum quantity of the incremental sample required according to 4.6.2 and the quantity of material delivered on each occasion by the sampling device.

Samples shall comprise of a quantity of material taken at randomly selected sampling points in each selected sampling unit. These samples shall be mixed to form the incremental sample from that unit.

EXAMPLE Minimum quantity of incremental sample 250 g Sampling device delivers approximately 100 g from each point. Samples to be taken from three randomly selected points in the unit.

4.6 Quantitative data**4.6.1 Determination of the minimum mass of increments**

One incremental sample shall be taken from each selected sampling unit.

All increments shall have approximately the same mass.

The required size of each incremental sample shall be considered when choosing the sampling device and the sampling method.