SLOVENSKI STANDARD
oSIST prEN 12580:2012

01-januar-2012

Izboljševalci tal in rastni substrati - Določevanje količine

Soil improvers and growing media - Determination of a quantity

Bodenverbesserungsmittel und Kultursubstrate - Bestimmung der Menge

Amendements organiques et supports de culture - Détermination de la quantité

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Ta slovenski standard je istoveten z: **prEN 12580 rev**

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ICS:

65.080 Gnojila Fertilizers

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2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 12580

September 2011

ICS 65.080

Will supersede EN 12580:1999

English Version

Soil improvers and growing media - Determination of a quantity

Amendements organiques et supports de culture - Détermination de la quantité

Bodenverbesserungsmittel und Kultursubstrate - Bestimmung der Menge

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 223.

If this draft becomes a European Standard, 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.

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

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Foreword

This document (prEN 12580:2011) has been prepared by Technical Committee CEN/TC 223 “Soil improvers and growing media”, the secretariat of which is held by ASI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 12580:1999.

The main changes are listed below:

— Reflects the provisions of EN 15238 and EN 15761.

— More detail provided on how to carry out the density determination of the product.

— Includes a method to calibrate the measure.

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Introduction

Soil improvers and growing media are generally traded by volume as the weight of the product can be greatly affected by the moisture content. It is important for both consumers and traders to know the volume of product being traded. Furthermore, for the cultivation of plants, it is the volume of the product, and not the weight, that is generally important. The volume is calculated from knowing the weight and bulk density of the product, the latter being determined from weighing a known reference volume of product. As some soil improvers and growing media are compressible it is important that this aspect be addressed in the method of determining the bulk density. A suitably competent person should undertake this testing.

For those materials traded by reference to its mass, this document recognises the effects the moisture content can have on the quantity declared. Therefore, for such transactions, any weight is accompanied by the moisture content so that the solid matter content can be calculated.

As some soil improvers and growing media are compressible (and some may be presented in compressed blocks or bales) it is important that this aspect be addressed in the method of determining the bulk density. A suitably competent person should undertake this testing.

Even for materials traded by volume the moisture content can have an effect as high moisture levels increase agglomerations, can reduce the ability to decompress or reconstitute materials, reduce their flow characteristics and give higher apparent bulk densities and lower volumes.

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The preparation and sampling of all materials prior to quantity determination is covered in EN 12579.

Quantity determination shall be performed as soon as possible after preparation and sampling

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1 Scope

This European Standard specifies methods for the determination of a quantity of soil improvers and growing media in bulk and in packages. This is a reference method, which is designed with an appropriate precision level so that it can be used to validate any quantity declaration made.

This standard is applicable to material that is in solid form, reconstituted if necessary, but not to blocks sold as such by dimension, for which see EN15761[1]. This method is not applicable for material with more than 10% (V/V) of particles greater than 60 mm in size, for which see EN 15238 [2].

NOTE 1 The requirements of this standard may differ from the national legal requirements for the declaration of the products concerned.

NOTE 2 Where there is no legal requirement to use this method, for example in quantity control of packaged product, then it is permissible for any other methods to be used so long as these other methods can be demonstrated to be comparable with this standard method in giving the same quantity with the same precision.

NOTE 3 Material which has become excessively wet and which cannot be easily broken down into a flowable material will not be suitable for the determination of quantity and may not give a representative result. However, because of the diverse nature and bulk density of these materials it is not possible to quantify what is 'excessive'.

NOTE 4 This standard is intended to be used by manufacturers, buyers and enforcement agencies in verifying claims made for these products. It is not intended that it should necessarily be used for the purpose of manufacturing control.

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2 Normative references

The following referenced documents are indispensable for the application 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.

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EN 12579 *Soil improvers and growing media – Sampling*

EN 13040 *Soil improvers and growing media – Sample preparation for chemical and physical tests, determination of dry matter content, moisture content and laboratory compacted bulk density*

EN 45501 *Metrological aspects of non-automatic weighing instruments*

ISO 5725 *Accuracy (trueness and precision) of measurement methods and results*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

3.1
batch (lot)
quantity of goods manufactured by the same process under the same conditions and labelled in the same manner and assumed to have the same characteristics

[1] EN 15761:2009, Pre-shaped growing media – Determination of length

[2] EN 15238:2006, Soil improvers and growing media – Determination of quantity for materials with particle size greater than 60 mm

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3.2
bulk
material that is not packaged

3.3
container
a container in which material is delivered, including a lorry, ship, boat and package

3.4
bulk density
bulk density of material as received or reconstituted for use in accordance with the manufacturer's instructions or as required by EN 12579, clause 6.4.4, determined by the method specified in this standard

3.5
package
container in which the goods are delivered and which remains with them after delivery
NOTE A package may be a loose-filled sack typically up to 100 litres, a compressed block or bale and even a ‚big bale', typically of 4 cubic metres or more.

3.6
strike
transparent sheet of flat material, normally glass, which is easily large enough to cover the top of the measure

3.7
volume
out-turn volume determined by the method specified in this standard

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4 Symbols and abbreviated terms

D bulk density of material, as determined by the method specified in this standard

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V the volume of material, in litres

m_x the mass of an item, in grams

5 Principle

5.1 For each batch of material, whether for delivery in bulk or in packages, the quantity of material is determined and reported either by volume or by weight.

5.2 Where the quantity declared is by volume then the material is weighed and then sampled and its bulk density is determined. From this information the volume is then calculated. Clauses 6 to 11 of the standard apply.

5.3 Where the quantity declared is by weight then the moisture content is also determined so that the dry matter weight can be determined and declared. Clauses 12 and 13 of the standard apply

NOTE The structure of the material may change with time and handling and this may affect the volume of the material.

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6 Apparatus

6.1 Measure, rigid, 20 l ± 0.4 l with a height to diameter ratio between 0.9:1 and 1:1. The volume, V_1, shall be known to the nearest 10 ml at 20 °C, with an uncertainty of measurement (k = 2) of no more than 50 ml.

NOTE 1 A standard 300 mm internal diameter pipe of height 283 mm with an end cap may be suitable.

NOTE 2 The apparent weight of 1 l of water at 20 °C is 997.15 g. Therefore no air buoyancy correction need be made.

NOTE 3 Information about the measurement and expression of uncertainty is given in the OIML Guide (G1) to the expression of uncertainty in measurement, (sometimes referred to as GUM).

6.2 Collar, rigid, of the same diameter as the measuring cylinder (see clause 5.1) and with a height of 75 mm ± 2 mm.

6.3 Fall controller, of either 20 mm± 0.6 mm or 40 mm ± 1.3 mm or 60 mm ± 2 mm mesh size as required (see clause 7), held not more than 50 mm above the collar, equipped with locating lugs to enable it to sit on the collar correctly without friction.

NOTE 1 Wires crossing each other at right angles form the mesh with the appropriately sized square holes.

NOTE 2 Ideally the fall controller should be separated from the measure to avoid jogging or vibrating material in the measure during the filling process.

Figure 1 shows the apparatus as described in clauses 6.1 to 6.3.

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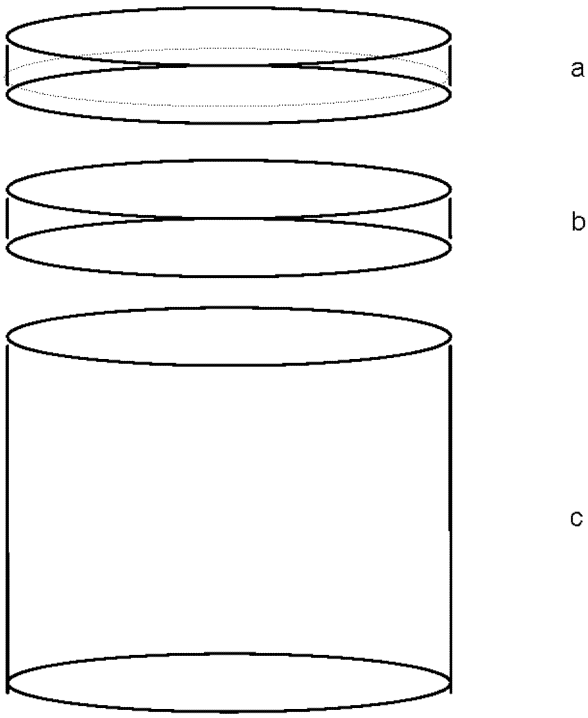

Key:

a is the Fall controller (6.3)

b is the Collar (6.2)

c is the Measuring cylinder (6.1)

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NOTE 1 For convenience and ease of use it is advisable to have 3 handles on the cylinder and 2 on the filling collar and the fall controllers

NOTE 2 For stability it is useful to have three short legs/feet on the base of the measuring cylinder

Figure 1 — Diagrammatic representation of the way the fall controller, filling collar and measuring cylinder are assembled

6.4 Weighing Machine : For packaged material, the scale shall conform to Table 1 with class III tolerances as specified in EN 45501.

For bulk material, the weighing machine shall conform to class III of EN 45501.

NOTE National legislation is likely to require that the equipment be verified before use, and so it will be marked with the ‚CE' mark and a green ‚M' to show it is legal to use for trade purposes, as required by European Directive 2009/23/EC.