

**Mullaparandajad ja kasvukeskkond.  
Füüsikaliste omaduste määramine. Kuiv  
mahukaal, õhumahutavus,  
veemahutavus, kokkutõmbumise määr  
ja üldpoorsus.**

Soil improvers and growing media - Determination of  
physical properties - Dry bulk density, air volume,  
water volume, shrinkage value and total pore space

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13041:2000 sisaldab Euroopa standardi EN 13041:1999 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.08.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13041:2000 consists of the English text of the European standard EN 13041:1999.</p> <p>This document is endorsed on 18.08.2000 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>
--	---

<p><b>Käsitlusala:</b></p> <p>This European standard specifies a method for the determination of the physical properties, dry bulk density, water volume, air volume, shrinkage value and total pore space of soil improvers or growing media. This European standard is not suitable for those materials which are very coarse, which do not make proper capillary contact or those which are pre-formed and non-particulate and are of closed porosity. It is applicable to materials with particles &lt; 25 mm and/or flexible fibres &lt; 80 mm.</p>	<p><b>Scope:</b></p> <p>This European standard specifies a method for the determination of the physical properties, dry bulk density, water volume, air volume, shrinkage value and total pore space of soil improvers or growing media. This European standard is not suitable for those materials which are very coarse, which do not make proper capillary contact or those which are pre-formed and non-particulate and are of closed porosity. It is applicable to materials with particles &lt; 25 mm and/or flexible fibres &lt; 80 mm.</p>
--	--

ICS 65.080

Võtmesõnad:

**English version**

**Soil improvers and growing media**

Determination of physical properties – Dry bulk density, air volume, water volume, shrinkage value and total pore space

Amendements du sol et supports de culture – Détermination des propriétés physiques – Masse volumique apparente sèche, volume d'air, volume d'eau, valeur de rétraction et porosité totale

Bodenverbesserungsmittel und Kultursubstrate – Bestimmung der physikalischen Eigenschaften – Rohdichte (trocken), Luftkapazität, Wasserkapazität, Schrumpfungswert und Gesamtporenvolumen

This European Standard was approved by CEN on 1999-10-23.

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.

CEN members are the national standards bodies of 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.

**CEN**

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

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

## Contents

	Page
Foreword	2
1 Scope	3
2 Normative references	3
3 Terms and definitions	3
4 Principle	4
5 Apparatus	4
6 Preparation	5
7 Procedure	5
8 Expression of results	7
9 Number of replicates	9
10 Precision	9
11 Test report	9
Annex A (normative) Construction of sand suction table	10
Annex B (informative) Results of an interlaboratory trial to determine the physical characteristics	16
Bibliography	18

## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 223 "Soil improvers and growing media", 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 June 2000, and conflicting national standards shall be withdrawn at the latest by June 2000.

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 describes an instrumental method for the routine determination of the physical properties, dry bulk density, water volume, air volume, shrinkage value and total pore space of soil improvers or growing media.

This European Standard is not suitable for those materials which are very coarse, which do not make proper capillary contact or those which are pre-formed and non-particulate and have closed porosity. It is applicable to materials with particles  $\leq 25$  mm and/or flexible fibres  $\leq 80$  mm.

NOTE 1 The method is not applicable to liming materials or sewage sludges and is not suitable for materials like rockwool and foam slabs.

NOTE 2 The method is not applicable to inorganic materials.

NOTE 3 The requirements of the standard may differ from the national legal requirements for the declaration of the products concerned.

## 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 12579	Soil improvers and growing media - Sampling
EN 13039	Soil improvers and growing media - Determination of organic matter content and ash
EN 13040 : 1999	Soil improvers and growing media - Sample preparation for chemical and physical tests, determination of dry matter content, moisture content and laboratory compacted bulk density.
ISO 11274:1998	Soil quality - Determination of the water retention characteristic - Laboratory methods.

## 3 Terms and definitions

For the purposes of this standard the terms and definitions in EN 12579 and the following apply.

### 3.1

#### **air volume**

that part of the volume of a sample filled by air measured under the conditions specified in this European Standard, in particular at a defined suction (e.g. minus 10 cm suction).

### 3.2

#### **dry bulk density**

ratio of the dry mass and volume of the sample in grams per litre.