

**Aiapidamisseadmed. Jalakäija poolt kontrollitavad  
muruõhutus- ja samblaeemaldusseadmed. Ohutus**

Garden equipment - Pedestrian controlled lawn aerators and  
scarifiers - Safety

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13684:2004+A3:2010 sisaldab Euroopa standardi EN 13684:2004+A3:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 28.02.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 16.12.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 13684:2004+A3:2010 consists of the English text of the European standard EN 13684:2004+A3:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 28.02.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 16.12.2009.

The standard is available from Estonian standardisation organisation.

ICS 65.060.70

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English Version

**Garden equipment - Pedestrian controlled lawn aerators and  
scarifiers - Safety**

Matériel de jardinage - Aérateurs et scarificateurs à  
conducteur à pied - Sécurité

Gartengeräte - Handgeführte Rasen-Bodenbelüfter und  
Vertikutierer - Sicherheit

This European Standard was approved by CEN on 1 April 2004 and includes Amendment 2 approved by CEN on 6 June 2009 and Amendment 3 approved by CEN on 20 November 2009.

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## Contents

page

Foreword .....	4
0 Introduction .....	5
1 Scope .....	6
2 Normative references .....	6
3 Terms and definitions .....	7
4 List of significant hazards .....	9
5 Safety requirements and/or protective measures .....	12
5.1 General .....	12
5.2 $\text{A}_3$ Power driven components and the tines $\text{A}_3$ .....	12
5.3 Guard attachment .....	12
5.4 Hot exhaust surfaces .....	13
5.4.1 General .....	13
5.4.2 Test equipment and method of test .....	13
5.4.3 Test acceptance .....	13
5.5 Protection from exhaust fumes .....	13
5.6 Pressurised components .....	13
5.7 Liquid spillage .....	14
5.8 Controls .....	14
5.8.1 General .....	14
5.8.2 Identification of controls .....	14
5.8.3 Operator presence control .....	15
5.8.4 Traction drive .....	15
5.9 Electrical requirements .....	15
5.9.1 General .....	15
5.9.2 Low voltage battery circuits (not including magneto grounding circuits) .....	15
5.9.3 Terminals and uninsulated electrical parts .....	16
5.10 Stopping and starting .....	16
5.10.1 Engine .....	16
5.10.2 $\text{A}_3$ Aerators – Tines $\text{A}_3$ .....	16
5.11 Braking requirements .....	17
5.11.1 General .....	17
5.11.2 Service brake .....	17
5.11.3 Parking brake .....	17
5.12 Handles .....	17
5.12.1 Construction .....	17
5.12.2 Foot probe test .....	18
5.13 Thrown object hazard .....	18
5.13.1 General .....	18
5.13.2 Thrown object test .....	18
5.13.3 Test results .....	19
5.13.4 Test acceptance (pass/fail criteria) .....	19
5.13.5 Additional testing .....	19
5.14 Strength of tines and tine mountings .....	19
5.15 General construction — Guarding and shielding .....	20
5.16 Noise .....	21
5.16.1 Noise reduction as a safety requirement .....	21
5.16.2 Verification of requirements on noise — Noise measurement .....	22
5.17 Vibration .....	22
5.17.1 Reduction by design and protective measures .....	22
5.17.2 Reduction by information .....	22

5.17.3	Vibration measurement .....	22
6	Information for use .....	23
6.1	Instruction for use .....	23
6.2	Marking .....	24
6.2.1	Minimum marking .....	24
6.2.2	Warnings .....	24
6.2.3	Marking durability .....	25
6.2.4	Test .....	25
Annex A	(normative) <b>Ⓐ Safety signs and symbols Ⓐ</b> .....	34
A.1	General .....	34
A.2	<b>Ⓐ Safety signs and symbols Ⓐ</b> .....	34
Annex B	(informative) <b>Safety instructions</b> .....	36
B.1	General .....	36
B.2	Safe operation practices. ....	36
B.2.1	Training .....	36
B.2.2	Preparation .....	36
B.2.3	Operation .....	37
B.2.4	Maintenance and storage .....	38
Annex C	(normative) <b>Noise test code — Engineering method (grade 2)</b> .....	39
C.1	Scope .....	39
C.2	A-weighted sound power level determination .....	39
C.3	A-weighted emission sound pressure level measurement .....	41
C.4	Requirements for test floor .....	41
C.4.1	Artificial surface .....	41
C.4.2	Natural grass .....	42
C.5	Installation, mounting and operating conditions .....	42
C.6	Measurement uncertainties and declaration of noise emission values .....	43
C.7	Information to be recorded and reported .....	43
Annex D	(informative) <b>Example of a material and construction fulfilling the requirements for an artificial surface</b> .....	44
D.1	Material .....	44
D.2	Construction .....	44
Annex E	(normative) <b>Vibration</b> .....	46
E.1	Quantities to be measured .....	46
E.2	Instrumentation .....	46
E.2.1	General .....	46
E.2.2	Fastening of transducer .....	46
E.2.3	Calibration .....	46
E.3	Measurement direction and measurement location .....	46
E.3.1	Measurement direction .....	46
E.3.2	Measurement location .....	47
E.4	Determination of working procedure .....	47
E.5	Measurement procedure .....	47
E.6	Determination of the measurement result .....	48
Annex ZA	(informative) <b>Ⓐ Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC Ⓐ</b> .....	49
Annex ZB	(informative) <b>Ⓐ Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC Ⓐ</b> .....	50
Bibliography	.....	51

## Foreword

This document (EN 13684:2004+A3:2009) has been prepared by Technical Committee CEN/TC 144 “Tractors and machinery for agriculture and forestry”, the secretariat of which is held by AFNOR.

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 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document includes Amendment 2, approved by CEN on 2009-06-06 and Amendment 3, approved by CEN on 2009-11-20.

This document supersedes  $\boxed{A_3}$  EN 13684:2004+A2:2009  $\boxed{A_3}$ .

The start and finish of text introduced or altered by amendment is indicated in the text by tags  $\boxed{A_2}$   $\boxed{A_2}$  and  $\boxed{A_3}$   $\boxed{A_3}$ .

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of  $\boxed{A_3}$  EU Directive(s)  $\boxed{A_3}$ .

$\boxed{A_2}$  For relationship with  $\boxed{A_3}$  EU Directive(s)  $\boxed{A_3}$ , see informative Annexes ZA and ZB, which are integral parts of this document.  $\boxed{A_2}$

Annexes A, C and E are normative. Annexes B and D are informative.

This document includes a Bibliography.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## 0 Introduction

This document is a type C standard as stated in EN 1070.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

## 1 Scope

This European Standard specifies safety requirements and their verification for the design and construction of pedestrian controlled integrally powered lawn aerators and scarifiers which are designed for re-generating lawns by, for instance, combing out grass, thatch and moss or cutting vertically into the lawn face using tines which rotate about a horizontal axis. It describes methods of elimination or reduction of hazards arising from their use. In addition, it specifies the type of information to be provided by the manufacturer on safe working practices.

Throughout this standard, the term “machine” applies to those machines known as aerators, scarifiers, corers, lawn rakes or grass rakes.

This standard does not apply to aerators/scarifiers made from a machine falling within the scope of EN 709:1997 when fitted with an aerating/scarifying implement, non-powered aerators, vertical axis aerators or those aerators which cut into the soil by means of a reciprocating motion or by water pressure. The electrical aspects of mains operated machines are covered by EN 60335-1. The safety aspects of batteries other than batteries for starting the engine and the electrical safety aspects of battery powered lawn aerators and scarifiers are not covered by this standard.

This standard deals with all significant hazards, hazardous situations and events relevant to scarifiers and aerators, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4).

Environmental hazards and EMC have not been considered in this standard.

This document is not applicable to aerators/scarifiers which are manufactured before the date of publication of this document by CEN.

## 2 Normative references

**A3** 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. **A3**

EN 294:1992, *Safety of machinery — Safety distance to prevent danger zones being reached by the upper limbs*

EN 954-1:1996, *Safety of machinery — Safety related parts of control systems — Part 1: General principles for design*

EN 982:1996, *Safety of machinery — Safety requirements for fluid power systems and their components — Hydraulics*

EN 1033:1995, *Hand-arm vibration — Laboratory measurement of vibration at the grip surface of hand-guided machinery — General*

EN 1070, *Safety of machinery — Terminology*

EN 60335-1:2002, *Household and similar electrical appliances — Part 1: General requirements (IEC 60335-1:2001, modified)*

EN ISO 354:2003, *Acoustics — Measurement of sound absorption in a reverberation room (ISO 354:2003)*

EN ISO 3744:1995, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane (ISO 3744:1994)*



EN ISO 11201:1995, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Engineering method in an essentially free field over a reflecting plane (ISO 11201:1995)*

EN ISO 11688-1:1998, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1:1995)*

EN ISO 12100-1:2003, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)*

ISO 3767-1:1998, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays — Part 1: Common symbols*

ISO 3767-3:1995, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays — Part 3: Symbols for powered lawn and garden equipment*

ISO 3767-4:1993, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays — Part 4: Symbols for forestry machinery*

ISO 3864-1:2002, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs in workplaces and public areas*

ISO 11684:1995, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Safety signs and hazard pictorials — General principles*

### 3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 1070 and the following apply.

#### 3.1

##### **braking system**

combination of one or more brakes and the related means of operation and control

#### 3.2

##### **catcher**

part or combination of parts which provides a means for collecting grass, thatch, moss or other debris

#### 3.3

##### **control**

means or device which will control the operation of the machine or any specific operating function thereof

#### 3.4

##### **working position**

any depth setting of the tines designated by the manufacturer

#### 3.5

##### **discharge chute**

extension of the tine enclosure from the discharge opening, generally used to control the discharge of material from the tines