

Garden equipment - Pedestrian controlled lawn
aerators and scarifiers - Safety

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13684:2018 sisaldab Euroopa standardi EN 13684:2018 ingliskeelset teksti.	This Estonian standard EVS-EN 13684:2018 consists of the English text of the European standard EN 13684:2018.
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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 15 January 2018.

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COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 13684:2018) 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of an identical text or by endorsement, at the latest by December 2018 and conflicting national standards shall be withdrawn at the latest by December 2018.

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 supersedes EN 13684:2004+A3:2009.

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

- Addition of requirements for:
 - electromagnetic immunity;
 - engine starting;
 - guarding of power driven components;
 - machine stability, with a test method.
- Modification of the:
 - contents of the instructions;
 - machine markings and warnings with new safety signs;
 - noise test method;
 - vibration test method.

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 EU Directive(s).

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

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, 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document is a type-C standard as stated in EN ISO 12100:2010.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

- machine manufacturers (small, medium and large enterprises);
- health and safety bodies (regulators, accident prevention organizations, market surveillance, etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

- machine users/employers (small, medium and large enterprises);
- machine users/employees (e.g. trade unions, organizations for people with special needs);
- service providers, e.g. for maintenance (small, medium and large enterprises);
- consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document. The machinery concerned and the extent to which hazards, hazardous situations or hazardous 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 type -B standards, the provisions of this type-C standard take precedence over the requirements of the other standards, for machines that have been designed and built according to the requirements of this type-C standard.

1 Scope

This European Standard specifies safety requirements and their verification for the design and construction. It is applicable to pedestrian controlled internal combustion engine 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.

This document deals with all significant hazards, hazardous situations or hazardous events relevant to pedestrian controlled internal combustion engine powered lawn aerators and scarifiers, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. 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 document, the term “machine” applies to those machines known as aerators, scarifiers, corers, lawn rakes or grass rakes.

It does not apply to:

- aerators/scarifiers made from a machine falling within the scope of EN 709:1997+A4:2009 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.

Environmental hazards have not been considered in this document.

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

2 Normative references

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.

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

EN ISO 3744:2010, *Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for an essentially free field over a reflecting plane (ISO 3744:2010)*

EN ISO 4413, *Hydraulic fluid power - General rules and safety requirements for systems and their components (ISO 4413)*

EN ISO 4871:2009, *Acoustics - Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN ISO 7010, *Graphical symbols - Safety colours and safety signs - Registered safety signs (ISO 7010)*

EN ISO 11201:2010, *Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections (ISO 11201:2010)*

EN ISO 11688-1:2009, *Acoustics - Recommended practice for the design of low-noise machinery and equipment - Part 1: Planning (ISO/TR 11688-1:1995)*

EN ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13849-1:2015, *Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design (ISO 13849-1:2015)*

EN ISO 13857:2008, *Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

EN ISO 14982:2009, *Agricultural and forestry machinery - Electromagnetic compatibility - Test methods and acceptance criteria (ISO 14982:1998)*

EN ISO 20643:2008, *Mechanical vibration - Hand-held and hand-guided machinery - Principles for evaluation of vibration emission (ISO 20643:2005)*

ISO 3767-1, *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, *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, *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, *Graphical symbols - Safety colours and safety signs - Part 1: Design principles for safety signs and safety markings*

ISO 7000, *Graphical symbols for use on equipment - Registered symbols*

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 document, the terms and definitions given in EN ISO 12100:2010 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