SLOVENSKI STANDARD
SIST EN 13684:2018+A1:2025

01-februar-2025

Nadomešča:
SIST EN 13684:2018

Oprema za nego vrta - Ročno upravljani prezračevalniki travne ruše in rahljalniki zemlje - Varnost (vključno z dopolnilom A1)

Garden equipment - Pedestrian controlled lawn aerators and scarifiers - Safety

Gartengeräte - Handgeführte Rasen-Bodenbelüfter und Vertikutierer - Sicherheit

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

Ta slovenski standard je istoveten z: **EN 13684:2018+A1:2024**

ICS:

65.060.70	Vrtnarska oprema	Horticultural equipment

SIST EN 13684:2018+A1:2025 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13684:2018+A1

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ICS 65.060.70

Supersedes EN 13684:2018

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 and includes Amendment 1 approved by CEN on 6 October 2024.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN 13684:2018+A1:2024 E

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European foreword

This document (EN 13684:2018+A1:2024) 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of an identical text or by endorsement, at the latest by June 2025 and conflicting national standards shall be withdrawn at the latest by June 2025.

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 includes Amendment 1 approved by CEN on 6 October 2024.

This document supersedes ▌A1⟩ EN 13684:2018 ⟨A1▌.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ▌A1⟩ ⟨A1▌.

In comparison with the previous edition [EN 13684:2004+A3:2009], 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 standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

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

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye 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)*

〚A1〛 EN ISO 4413:2010, *Hydraulic fluid power — General rules and safety requirements for systems and their components (ISO 4413:2010)* 〚A1〛

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

〚A1〛 EN ISO 7010:2020, *Graphical symbols — Safety colours and safety signs — Registered safety signs (ISO 7010:2019, Corrected version 2020-06)* 〚A1〛

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)*

〉A1〈 EN ISO 13849-1:2023, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2023)* 〉A1〈

〉A1〈 EN ISO 13857:2019, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2019)* 〉A1〈

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)*

〉A1〈 ISO 3767-1:2016, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays — Part 1: Common symbols* 〉A1〈

〉A1〈 ISO 3767-3:2016, *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* 〉A1〈

〉A1〈 ISO 3767-4:2016, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays — Part 4: Symbols for forestry machinery* 〉A1〈

〉A1〈 ISO 3864-1:2011, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs and safety markings* 〉A1〈

〉A1〈 ISO 7000:2019, *Graphical symbols for use on equipment — Registered symbols* 〉A1〈

〉A1〈 ISO 11684:2023, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Safety labels — General principles* 〉A1〈

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

3.4
working position
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

3.6
discharge opening
gap or opening in the tine enclosure through which grass, thatch, moss and other debris may be discharged

3.7
front discharge
action of throwing out grass, thatch and moss so that they will be collected in a catcher which is located in front of the **tines**

3.8
handle
part likely to be hand-held for guiding the machine in normal use

3.9
lawn aerator
corer
machine which uses the ground to determine the depth of cut, designed for penetrating the lawn surface

3.10
scarifier
lawn rake
machine designed to scratch the surface, or earth face thereby also combing the lawn

3.11
maximum operating engine speed
highest engine speed obtainable when adjusted in accordance with the machine manufacturer's specifications and/or instructions with the tines engaged

3.12
normal operation
use of the machine which is specified by the manufacturer and which is consistent with such activities as combing thatch, starting, stopping, fuelling, connecting to (or disconnecting from) a power source

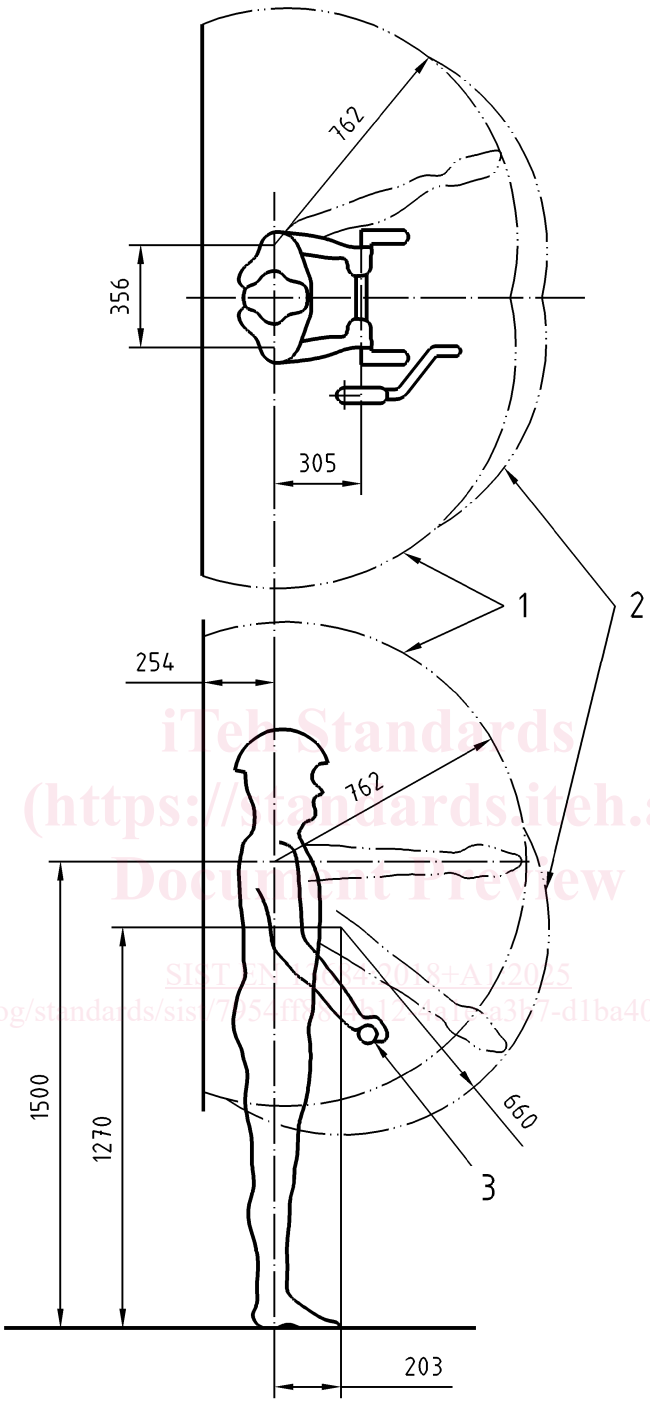
3.13
normal use
normal operation, plus routine maintenance, servicing, cleaning, transporting, attaching or removing accessories, and making adjustments as determined by the manufacturer's instructions

3.14
operator control
control requiring operator actuation to perform specific functions

3.15
operator presence control
OPC
control designed so that it will automatically interrupt power to a drive when the operator's actuating force is removed

3.16
operator zone
zone for persons operating a machine as presented in Figure 1

Dimensions in millimetres



Key

1 operator zone
2 lower forward zone
3 handle

NOTE 1 The operator zone is the area into which the extremities of a 95th percentile male can reach from the normal operator position.

NOTE 2 The lower forward zone is the area into which a 5th percentile male or a 50th percentile female can reach when against the handle. This zone can also be reached by a 95th percentile leaning forward against the handle.