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juhitavad muruniidukid**

**Garden equipment - Safety requirements for
combustion-engine-powered lawnmowers - Part 2:
Pedestrian-controlled lawnmowers (ISO 5395-2:2013)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 5395-2:2013 sisaldab Euroopa standardi EN ISO 5395-2:2013 inglisekeelset teksti.	This Estonian standard EVS-EN ISO 5395-2:2013 consists of the English text of the European standard EN ISO 5395-2:2013.
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Garden equipment - Safety requirements for combustion-engine-powered lawnmowers - Part 2: Pedestrian-controlled lawnmowers (ISO 5395-2:2013)

Matériel de jardinage - Exigences de sécurité pour les tondeuses à gazon à moteur à combustion interne - Partie 2: Tondeuses à gazon à conducteur à pied (ISO 5395-2:2013)

Gartengeräte - Sicherheitsanforderungen für verbrennungsmotorisch angetriebene Rasenmäher - Teil 2: Handgeführte Rasenmäher (ISO 5395-2:2013)

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Foreword

This document (EN ISO 5395-2:2013) has been prepared by Technical Committee ISO/TC 23 "Tractors and machinery for agriculture and forestry" in collaboration with 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of an identical text or by endorsement, at the latest by March 2014, and conflicting national standards shall be withdrawn at the latest by September 2014.

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 supersedes EN 836:1997+A4:2011.

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.

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

Endorsement notice

The text of ISO 5395-2:2013 has been approved by CEN as EN ISO 5395-2:2013 without any modification.

Annex ZA
(informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC on machinery amended by 2009/127/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 2006/42/EC amended by 2009/127/EC.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements of that Directive and associated EFTA regulations.

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

NOTE Compliance with Part 2, together with Part 1, is necessary to achieve presumption of conformity with the Essential Requirements of Directive 2006/42/EC and associated EFTA regulations.

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Introduction

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

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 requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements 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.

Garden equipment — Safety requirements for combustion-engine-powered lawnmowers —

Part 2: Pedestrian-controlled lawnmowers

1 Scope

1.1 This part of ISO 5395 specifies safety requirements and their verification for combustion-engine-powered pedestrian-controlled rotary lawnmowers and cylinder lawnmowers, including pedestrian-controlled mowers with a sulky having a seated operator (hereafter named “lawnmower”), and equipped with:

- metallic cutting means; and/or
- non-metallic cutting means with one or more cutting elements pivotally mounted on a generally circular drive unit, where these cutting elements rely on centrifugal force to achieve cutting, and have a kinetic energy for each single cutting element of 10 J or more.

This part of ISO 5395 does not apply to:

- robotic and remote-controlled lawnmowers, flail mowers, grassland mowers, sickle bar mowers, towed/semi-mounted grass-cutting machines, and scrub-clearing machines;
- electrically powered and battery-powered lawnmowers;
- pedestrian-controlled lawnmowers with a swing-over handle.

NOTE IEC 60335-1^[2] together with IEC 60335-2-77^[3] give requirements for pedestrian-controlled walk-behind electrically powered lawnmowers.

1.2 This part of ISO 5395 deals with all significant hazards, hazardous situations or events (see [Annex A](#)) relevant to lawnmowers when used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer.

1.3 It is not applicable to lawnmowers which are manufactured before the date of publication of this document.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61032:1997, *Protection of persons and equipment by enclosures — Probes for verification*

ISO 5395-1:2013, *Garden equipment — Safety requirements for combustion-engine-powered lawnmowers — Part 1: Terminology and common tests*

ISO 5395-3:2013, *Garden equipment — Safety requirements for combustion-engine-powered lawnmowers — Part 3: Ride-on lawnmowers with seated operator*

ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 13849-1:2006, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

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

ISO 14119:1998, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*

ISO 14982:1998, *Agricultural and forestry machinery — Electromagnetic compatibility — Test methods and acceptance criteria*

ISO 17398:2004, *Safety colours and safety signs — Classification, performance and durability of safety signs*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12100 and ISO 5395-1 apply.

4 Requirements for pedestrian-controlled lawnmowers

4.1 General

The lawnmower shall comply with the safety requirements and/or protective measures of this clause. The lawnmower shall be marked and carry warnings according to [7.2](#) and shall be provided with an instruction handbook which complies with [7.1](#).

In addition, the lawnmower shall be designed according to the principles of ISO 12100 for relevant but not significant hazards which are not dealt with by this document. An audible warning device (for example, horn) is not required. Unless otherwise stated, all tests shall be carried out at an ambient temperature between 15 °C and 35 °C.

If not otherwise specified within this part of ISO 5395, the tests may be carried out in any order and on separate machines, cutting-means enclosures, and cutting-means components.

When the order in which tests should be carried out and the number of permitted machines are not defined in this part of ISO 5395, these conditions should be determined by agreement between the persons carrying out the tests and the manufacturer.

Where it is specified that the engine shall run during the test, it shall be operated at the maximum operating engine speed (see definition in ISO 5395-1). If the measured engine speed is not within the limits specified in the instruction handbook, the engine speed shall be adjusted in accordance with the manufacturer's instructions.

4.2 Controls

4.2.1 Location

The location of operator controls which require sustained activation shall be within the gripping area of the handle(s).

The location of operator controls that do not require sustained activation but that might be operated during grass cutting shall be within the zones shown in [Figure 1](#).

The operator control zone defined in [Figure 1](#) includes the maximum movement range of the controls but is not intended to represent preferred operator control positions.

NOTE 1 ISO/TS 15079^[12] gives useful information about the location and operation of operator controls.

For lawnmowers with a sulky, see the additional requirements in [4.17.2](#).