

**Aiapidamisseadmed. Eeslükatavad ja käeshoitavad  
elektriajamiga murutrimmerid ja muruservatrimmerid.  
Mehaaniline ohutus KONSOLIDEERITUD TEKST**

Garden equipment - Electrically powered walk-behind and  
hand-held lawn trimmers and lawn edge trimmers -  
Mechanical safety CONSOLIDATED TEXT

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 786:1996+A2:2009 sisaldab Euroopa standardi EN 786:1996+A2:2009 ingliskeelset teksti.

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English Version

**Garden equipment - Electrically powered walk-behind and hand-held lawn trimmers and lawn edge trimmers - Mechanical safety**

Matériel de jardinage - Coupe gazon et coupe-bordures électriques portatifs et à conducteur à pied - Sécurité mécanique

Gartengeräte - Elektrisch betriebene handgeführte und handgehaltene Rasentrimmer und Rasenkantentrimmer - Mechanische Sicherheit

This European Standard was approved by CEN on 20 April 1996 and includes Corrigendum 1 issued by CEN on 12 August 1996, Amendment 1 approved by CEN on 4 February 2001 and Amendment 2 approved by CEN on 10 August 2009.

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## Foreword

This document (EN 786:1996+A2:2009) 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of an identical text or by endorsement, at the latest by April 2010, and conflicting national standards shall be withdrawn at the latest by April 2010.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 European Standard was approved by CEN on 20 April 1996 and includes Corrigendum 1 issued by CEN on 12 August 1996, Amendment 1 approved by CEN on 4 February 2001 and Amendment 2 approved by CEN on 10 August 2009.

This document supersedes EN 786:1996.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1** and **A2** **A2**.

The modifications of the related CEN Corrigendum have been implemented at the appropriate places in the text and are indicated by the tags **AC** **AC**.

**A2** 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(s), see informative Annexes ZA and ZB, which are integral parts of this document. **A2**

The Annex A is normative and contains the "List of hazards".

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.

## Introduction

The extent to which hazards are covered is indicated in the scope of this standard. In addition machinery shall comply as appropriate with EN 292 for hazards which are not covered by this standard.

The electrical safety aspects of lawn trimmers and lawn edge trimmers will be covered by a standard presently under development by CLC/TC 61F.

Walk-behind machines with metal cutting elements or cutting elements with greater than 10 J kinetic energy will be covered by a standard presently under development by CEN/TC 144/WG 7.

## 1 Scope

This European Standard specifies mechanical safety requirements and testing for the design and construction of electrically powered walk-behind and hand-held lawn trimmers and lawn edge trimmers, with cutting element(s) of non-metallic filament line or freely pivoting non-metallic cutter(s) with a kinetic energy of not more than 10 J each, and used by a standing operator primarily for cutting grass.

It describes methods for the 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.

This standard is not applicable to:

- a) Scissor type or lawn trimmers and lawn edge trimmers with cutting means other than those described above;
- b) Self-propelled lawn trimmers or lawn edge trimmers;
- c) Lawn trimmers or lawn edge trimmers which do not have a distance of at least 600 mm between the cutting means control and the cutting head.

The electrical aspects of electrically powered lawn trimmers and lawn edge trimmers are not covered by this standard.

The list of significant hazards dealt with in this standard is given in annex A. Annex A also indicates the hazards which have not been dealt with.

Environmental aspects have not been considered in this standard.

This European Standard applies primarily to machines which are manufactured after the date of issue of this standard.

NOTE The method of calculating the kinetic energy for the purposes of this standard is given in annex B.

## 2 Normative references

This European Standard incorporates by dated or undated references, 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 292-1:1991, *Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology*

EN 292-2:1991, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles and specifications*

■<sup>A1</sup> EN 292-2:1991/A1:1995, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles and specifications* <sup>A1</sup>

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

■<sup>A1</sup> EN 836:1997, *Garden equipment - Powered lawnmowers – Safety*

EN 28662-1:1992, *Hand-held portable power tools - Measurement of vibrations at the handle – Part 1: General (ISO 8662-1:1988)*

EN ISO 354:1993, *Acoustics – Measurement of sound absorption in a reverberation room (ISO 354:1985)*

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)* <sup>A1</sup>

ISO 3767-1:1991, *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*

### 3 Definitions

For the purposes of this standard the following definitions apply:

#### 3.1

##### **hand-held**

supported by hand, possibly assisted by wheel(s), skids or harness, etc.

#### 3.2

##### **walk-behind**

ground supported, controlled by an operator walking behind

#### 3.3

##### **lawn trimmer**

grass trimming machine where the cutting means operates in a plane approximately parallel to the ground

#### 3.4

##### **lawn edge trimmer**

grass trimming machine where the cutting means operates in a plane approximately perpendicular to the ground