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HOOLDUSE MASINAD. NÕUDED HEINA- JA
VÕSALÕIKAMISMASINATELE

Road operation machinery - Safety - Part 4: Road
service area maintenance machines - Requirements for
grass and brush cutting machines

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 17106-4:2021 sisaldab Euroopa standardi EN 17106-4:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 17106-4:2021 consists of the English text of the European standard EN 17106-4:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
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EUROPEAN STANDARD

EN 17106-4

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2021

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Supersedes EN 13019:2001+A1:2008, EN
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English Version

Road operation machinery - Safety - Part 4: Road service area maintenance machines - Requirements for grass and brush cutting machines

Machines d'exploitation des routes - Sécurité - Partie 4
: Machines d'entretien des dépendances routières -
Prescriptions spécifiques pour les faucheuses et les
débroussailleuses

Maschinen für den Straßenbetriebsdienst - Sicherheit -
Teil 4: Maschinen für die Straßenunterhaltung -
Anforderungen für Grasmähgeräte

This European Standard was approved by CEN on 16 August 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

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European foreword

This document (EN 17106-4:2021) has been prepared by Technical Committee CEN/TC 151 “Construction equipment and building material machines - Safety”, the secretariat of which is held by DIN.

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 2022, and conflicting national standards shall be withdrawn at the latest by April 2022.

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 13019:2001+A1:2008, EN 13021:2003+A1:2008 and EN 13524:2003+A2:2014.

This document has been prepared under a standardization request 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 Annex ZA which is an integral part of this document.

EN 17106:2021 consists of the following parts under the general title “Road operation machinery – Safety”:

- Part 1: General requirements
- Part 2: Specific requirements for road surface cleaning machines
- Part 3-1: Winter service machines - Specific requirements for snow clearing machines with rotating tools and snow ploughs
- Part 3-2: Winter service machines - Specific requirements for spreading machines
- Part 4: Road service area maintenance machines - Specific requirements for grass and brush cutting machines

The significant technical changes introduced in this standard, are related to the risks resulting from the combination of a grass/brush-cutting attachment with a vehicle (truck, tractor or self-propelled machinery), in terms of stability, mechanical interfaces, ergonomics of the control system in the cabin and visibility.

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, 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:

- distributors;
- machine users/employers;
- machine users/employees (e.g. trade unions, organizations for people with special needs);
- service providers (e.g. for maintenance);
- 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 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.

1 Scope

This document applies to grass and/or brush cutting machinery which are attached to or mounted on carrier vehicles (e.g. tractor, truck), or which are self-propelled machinery and which are defined in Clause 3.

For mobile machinery, which are a combination of a grass/brush-cutting attachment and a carrier-vehicle, this part of the standard addresses the relevant health and safety requirements of Annex I of the machinery directive which are inherent to the grass or brush cutting attachment itself and those resulting from the other risks which are only related to the combination of the grass/brush-cutting attachment with the carrier vehicle (e.g. interfaces between the attachment and the carrier-vehicle, stability, visibility). For machinery which are a combination of a grass/brush-cutting attachment and a carrier-vehicle, this part does not deal with the carrier vehicle itself which is covered by another European legislation.

For self-propelled machinery, this part only deals with health and safety requirements of the attachment itself and does not deal with the self-propelled machinery itself which are dealt with in EN 17106-1:2021.

The requirements of this part are complementary to the common requirements formulated in EN 17106-1:2021.

This document does not repeat the requirements from EN 17106-1:2021, but contains clauses/subclauses which supplement or modify the corresponding clauses/subclauses of part 1 to provide requirements for grass and/or brush cutting machinery.

When requirements of this document are different from those which are stated in EN 17106-1:2021, the requirements of this document take precedence over the requirements of EN 17106-1:2021 for machines that have been designed and built according to the provisions of this document.

NOTE 1 Road regulations or Directives apply to vehicular trucks and tractors, termed 'carrier vehicles' in this standard.

NOTE 2 The use in public road traffic is governed by the national regulations.

This document deals with all significant hazards identified through a risk assessment pertinent to grass and/or brush cutting machinery, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (transportation, assembly, dismantling and disabling, see Annex D). This document specifies also the appropriate technical measures to eliminate or reduce risks arising from the significant hazards associated with machine operation, setting and adjustments, load discharge and routine maintenance.

This document does not deal with:

- walker-operated and hand-held machines;
- machines for the maintenance of sports grounds;
- machines for agriculture, horticulture and forestry;
- pit and sewer cleaning vehicles/-machines;
- grass and brush cutting machines with multiple cutting heads (see Figure C.20);
- vertical axis grass and brush cutting machines except inter-post machinery (see Figure C.22);
- horizontal axis grass and brush cutting machines with two rotors (see Figure C.23);
- self-propelled remote-controlled machinery for road service area maintenance, except the mowing head;
- self-propelled remote-controlled machinery used for forestry application (see Figure C.21);
- cleansing and ditch maintenance machines (see Figures C.24 and C.25).

This document does not deal with the risks associated with the operation of machines in potentially explosive atmospheres and risks associated with electro-magnetic compatibility, vibrations and slewing cab of self-propelled machinery.

This document does not address the safety requirements related to noise declaration.

This document is not applicable to grass and/or brush cutting machinery 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 15436-1:2008, *Road service area maintenance equipment - Part 1: Terminology*

EN 17106-1:2021, *Road operation machinery - Safety - Part 1: General requirements*

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

EN ISO 13850:2015, *Safety of machinery - Emergency stop function - Principles for design (ISO 13850:2015)*

ISO 536:2019, *Paper and board - Determination of grammage*

ISO 730:2009, *Agricultural wheeled tractors - Rear-mounted three-point linkage - Categories 1N, 1, 2N, 2, 3N, 3, 4N and 4*

ISO 789-1:2018, *Agricultural tractors - Test procedures - Part 1: Power tests for power take-off*

ISO 1974:2012, *Paper - Determination of tearing resistance - Elmendorf method*

ISO 2758:2014, *Paper - Determination of bursting strength*

ISO 3416:1986, *Textile floor coverings - Determination of thickness loss after prolonged, heavy static loading*

ISO 6750-1:2019, *Earth-moving machinery - Operator's manual - Part 1: Contents and format*

ISO/TR 6750-2:2021, *Earth-moving machinery - Operator's manual - Part 2: List of references*

ISO 11001-1:2016, *Agricultural wheeled tractors - Three-point hitch couplers - Part 1: U-frame coupler*

ISO 11001-2:1993, *Agricultural wheeled tractors and implements - Three-point hitch couplers - Part 2: A-frame coupler*

ISO 11001-3:2009, *Agricultural wheeled tractors and implements - Three-point hitch couplers - Part 3: Link coupler*

ISO 11001-4:1994, *Agricultural wheeled tractors and implements - Three-point hitch couplers - Part 4: Bar coupler*