

**Aiapidamiseadmed. Integreeritud jõuallikaga
hekseldid/veskid. Ohutus KONSOLIDEERITUD TEKST**

Garden equipment - Integrally powered shredders/chippers -
Safety CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13683:2004+A2:2011 sisaldab Euroopa standardi EN 13683:2003+A2:2011 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 31.03.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 09.03.2011.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13683:2004+A2:2011 consists of the English text of the European standard EN 13683:2003+A2:2011.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 31.03.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 09.03.2011.</p> <p>The standard is available from Estonian standardisation organisation.</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

ICS 65.060.70

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: 605 5050; E-mail: info@evs.ee

English Version

Garden equipment - Integrally powered shredders/chippers -
Safety

Matériel de jardinage - Broyeurs/déshiqueurs à moteur
intégrés - Sécurité

Gartengeräte - Motorgetriebene Schredder/Zerkleinerer -
Sicherheit

This European Standard was approved by CEN on 8 September 2003 and includes Amendment 1 approved by CEN on 14 March 2009 and Amendment 2 approved by CEN on 3 December 2010.

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.

CEN members are the national standards bodies of 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

	Page
Foreword	4
0 Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 List of significant hazards	11
5 Safety requirements and/or measures	13
5.1 General	13
5.2 Access to power driven components	13
5.2.1 Feed safety openings	13
5.2.2 Discharge chutes	22
5.2.3 Guards	26
5.2.4 Power driven components except cutting means	26
5.3 Hot exhaust surfaces	27
5.3.1 General	27
5.3.2 Test equipment and method of test	27
5.3.3 Test acceptance	27
5.4 Controls	29
5.4.1 Location	29
5.4.2 Stopping and starting the power source	29
5.4.3 Identification of controls	29
5.5 Protection from exhaust fumes	29
5.6 Electrical requirements	29
5.6.1 General	29
5.6.2 Low voltage battery circuits (not including magnetic grounding circuits)	29
5.6.3 Overload protection	30
5.6.4 Terminals and uninsulated electrical parts	30
5.7 Liquid spillage	30
5.8 Transport	30
5.9 Verification of safety requirements	30
5.9.1 Test conditions	30
5.9.2 Thrown object test (see 5.2.3.1)	31
5.9.3 Stability	34
5.9.4 Dynamic stability test	34
5.10 Noise	35
5.10.1 Noise reduction as a safety requirement	35
5.10.2 Verification of requirements on noise – Noise measurement	35
6 Information for use	36
6.1 Instruction for use	36
6.2 Marking	37
6.2.1 Minimum marking	37
6.2.2 Warning marking	38
6.2.3 Marking durability	38
6.2.4 Test	38
Annex A (informative) ^{A2} Examples of inlet openings where the safety distance is ≥ 200 mm (see 5.2.1.3) ^{A2}	39
Annex B (normative) Test enclosure	42
Annex C (normative) Target panels - Specification for corrugated fibreboard (see 5.9.2)	44

C.1	Corrugated fibreboard target panel composition	44
C.2	Corrugated fibreboard penetration test	44
C.2.1	General	44
C.2.2	Test fixture	44
C.2.3	Corrugated fibreboard samples	44
C.2.4	Procedure	44
C.2.5	Acceptance criteria	45
Annex D	(informative) Safety instructions	47
D.1	General	47
D.2	Safe operating practices	47
D.2.1	Training	47
D.2.2	Preparation	47
D.2.3	Operation	48
D.2.4	Maintenance and storage	49
D.2.5	Additional safety instructions for units with bagging attachments	49
Annex E	(normative) Symbols and/or pictograms	50
E.1	General	50
E.2	Pictograms	50
Annex F	(normative) Noise test code – Engineering method (grade 2)	52
F.1	Scope	52
F.2	A-weighted sound power level determination	52
F.3	A-weighted emission sound pressure level measurement	53
F.4	Requirements for test floor	57
F.4.1	Artificial surface	57
F.4.2	Natural grass	57
F.5	Installation, mounting and operating conditions	57
F.6	Measurement uncertainties and declaration of noise emission values	58
F.7	Information to be recorded and reported	58
Annex G	(informative) Example of a material and construction fulfilling the requirements for an artificial surface	59
G.1	Material	59
G.2	Construction	59
Annex ZA	(informative)  Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC 	61
Bibliography	62

Foreword

This document (EN 13683:2003+A2:2011) 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 September 2011, and conflicting national standards shall be withdrawn at the latest by September 2011.

This document includes Amendment 1, approved by CEN on 2009-03-14 and Amendment 2, approved by CEN on 2010-12-13.

This document supersedes EN 13683:2003+A1:2009.

The start and finish of text introduced or altered by amendment is indicated in the text by tags $\langle A_1 \rangle$ and $\langle A_2 \rangle$.

$\langle A_2 \rangle$ *deleted text* $\langle A_2 \rangle$

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).

$\langle A_1 \rangle$ For relationship with EU Directive(s), see informative $\langle A_2 \rangle$ Annex ZA $\langle A_2 \rangle$, which $\langle A_2 \rangle$ is an integral part $\langle A_2 \rangle$ of this document. $\langle A_1 \rangle$

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.

Annexes A, D and G are informative. Annexes B, C, E and F are normative.

This document includes a Bibliography.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

0 Introduction

This document is a type C standard as stated in EN 1070:1998.

The machinery concerned and the extent to which hazards, hazardous situations and 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 B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

This document is a preview generated by EVS

1 Scope

This European Standard specifies safety requirements and their verification for the design and construction of hand fed, shredders/chippers with integral power source and with or without vacuum assisted collection which are designed primarily to reduce organic material to smaller pieces. It is only applicable to shredders/chippers that are designed for use outdoors in a stationary position by an operator standing on the ground. ^{A2} This standard applies to shredders/chippers with feed intake openings or segments, in this standard referred to as feed safety openings and being of any shape complying with the safety distance requirements of this standard with regard to contact with the cutting means, that in total will fit into a square of 250 mm × 250 mm measured at the plane of the opening(s). ^{A2}

^{A2} deleted text ^{A2}

This standard describes methods of elimination or reduction of hazards arising from the use of shredders/chippers. In addition it specifies the type of information to be provided by the manufacturer on safe working practices.

This standard does not cover requirements for:

- units driven by an external power source;
- mobile use of units which can be used in both stationary and mobile modes;
- units with powered discharge intended to broadcast material or load vehicles;

^{A2}

- units with separate mechanically powered feed intake or attachments; ^{A2}
- units with cutting means of either one or more non-metallic filaments, or one or more non-metallic cutting elements pivotally mounted on a generally circular central drive unit, where these cutting elements rely on centrifugal force to achieve cutting, and have a kinetic energy for each single cutting means of less than 10 J;

^{A2}

- electrical powered and battery-powered shredders/chippers. ^{A2}

Environmental hazards and EMC have not been considered in this standard.

This standard deals with all significant hazards, hazardous situations and events relevant to shredders/chippers, when they are used as intended (see clause 4).

This document is not applicable to shredders/chippers which are manufactured before the date of publication of this document by CEN.

2 Normative references

This European Standard incorporates, by dated or undated reference, 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 (including amendments).

^{A2} deleted text ^{A2}

EN 953:1997+A1:2009, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards* ^{A2}

EN 954-1:1996, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design.*

EN 1070:1998, *Safety of machinery — Terminology.*

EN 61032:1998, *Protection of persons and equipment by enclosures — Probes for verification (IEC 61032:1997)* ^{A2}

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

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).*

EN ISO 12100-1:2003, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)*

EN ISO 13849-1:2008, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*

EN ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)* ^{A2}

ISO 3767-1:1998, *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.*

ISO 3767-4:1993, *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 3864-1:2002, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs in workplaces and public areas.*

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 European Standard, the terms and definitions given in EN 1070:1998 and the following apply.