

**Metsatöömasinad. Kaasaskantavate kettsaagide
ohutusnõuded ja katsetamine. Osa 2: Hooldusraiel
kasutatavad kettsaed**

Machinery for forestry - Portable chain-saw safety
requirements and testing - Part 2: Chain-saws for tree
service

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 11681-2:2008 sisaldab Euroopa standardi EN ISO 11681-2:2008 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 15.12.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 05.11.2008.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 11681-2:2008 consists of the English text of the European standard EN ISO 11681-2:2008.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 15.12.2008 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 05.11.2008.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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English Version

**Machinery for forestry - Portable chain-saw safety requirements
and testing - Part 2: Chain-saws for tree service (ISO 11681-
2:2006)**

Matériel forestier - Exigences de sécurité et essais des
scies à chaîne portatives - Partie 2: Scies à chaîne pour
l'élagage des arbres (ISO 11681-2:2006)

Forstmaschinen - Sicherheitstechnische Anforderungen
und Prüfungen für tragbare Kettensägen - Teil 2:
Kettensägen für die Baumpflege (ISO 11681-2:2006)

This European Standard was approved by CEN on 15 October 2008.

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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 Management Centre has the same status as the official versions.

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Foreword

The text of ISO 11681-2:2006 has been prepared by Technical Committee ISO/TC 23 "Tractors and machinery for agriculture and forestry" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 11681-2:2008 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 May 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

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 ISO 11681-2:2006.

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 EC Directives.

For relationship with EC Directives, see informative Annexes ZA and ZB, which are 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, 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 the United Kingdom.

Endorsement notice

The text of ISO 11681-2:2006 has been approved by CEN as a EN ISO 11681-2:2008 without any modification.

Annex ZA (Informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/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 Machinery Directive 98/37 EC, amended by Directive 98/79/EC.

Once this standard is cited in the Official Journal of the European Communities 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 Essential Requirement 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.

Annex ZB (informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC

This International 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 on machinery.

Once this standard is cited in the Official Journal of the European Communities 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 *except Essential Requirements 1.2.1 fourth indent, 1.7.3 first paragraph, first and second indent, 1.7.4.2 q), t) and u) fourth paragraph second sentence and 2.2.1.1 first paragraph second indent* 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.

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Introduction

The structure of safety standards in the field of machinery is as follows.

- a) **Type-A standards** (basis standards) give basic concepts, principle for design, and general aspects that can be applied to machinery;
- b) **Type-B standards** (generic safety standards) dealing with one or more safety aspect(s) or one or more type(s) of safeguards that can be used across a wide range of machinery:
 - type-B1 standards on particular safety aspects (e.g. safety distances, surface temperature, noise);
 - type-B2 standards on safeguards (e.g. two-hands controls, interlocking devices, pressure sensitive devices, guards);
- c) **Type-C standards** (machinery safety standards) dealing with detailed safety requirements for a particular machine or group of machines.

This document is a type-C standard as stated in ISO 12100-1.

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 provisions of the other standards for machines that have been designed and built according to the provisions of this type-C standard.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document. These hazards are specific to self-propelled, trailed, semi-mounted and mounted agricultural machines.

This part of ISO 11681 has been prepared for a special type of chain-saw used by trained persons for tree service work up in trees.

This part of ISO 11681 differs from ISO 11681-1 in the following respects:

- Clause 1, the tree service chain-saws are limited in size by the maximum allowed dry mass of 4,3 kg;
- Clause 3, a definition of trained operator has been added and that of chain saws for tree service revised;
- 5.2.1, the required handle dimensions have been altered;
- 5.4.1, a requirement for the sideways balance has been added with a limited holding moment of 6 N·m;
- 5.5.2.1, the non-manual chain-brake system must meet stricter requirements;
- 5.5.3.1, the allowed kickback angle has been reduced to 25°;
- 5.12.1, the requirement for protection from contact with parts under high voltage has been enlarged to include a requirement for an ignition interruption or short-circuiting device on the low voltage side;
- 5.15.1, the requirement for protection from hot parts has been enlarged to all parts of the machine, except the guide bar and saw chain;
- 5.20, a requirement and verification for an attachment point has been added;

- 6.1.2, additional information including how to use the saw up in trees using the example in Annex B is required;
- 6.3, new safety warnings and markings on the saw and information at the point of sale are requested, with examples of the symbols to be used given in Annex A.

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Machinery for forestry — Portable chain-saw safety requirements and testing —

Part 2: Chain-saws for tree service

1 Scope

This part of ISO 11681 specifies safety requirements and their verification for the design and construction of portable combustion-engine, hand-held chain-saws for tree service, having a maximum mass, without guide bar or saw chain and with tanks empty, equal to 4,3 kg, and designed for use by a trained operator for pruning and dismantling standing tree crowns.

It gives methods for the elimination or reduction of hazards arising from the use of the chain-saws. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer.

It deals with all significant hazards. The environmental aspects, except for noise, have not been considered.

Chain-saws covered by this part of ISO 11681 are designed to be operated with the right hand on the rear handle and the left hand on the front handle by persons having read and understood the safety requirements in the instruction handbook and using the appropriate personal protective equipment (PPE).

This part of ISO 11681 is not applicable to chain-saws manufactured before its date of publication.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 6531:1999, *Machinery for forestry — Portable hand-held chain-saws — Vocabulary*

ISO 6533:2001, *Forestry machinery — Portable chain-saw front hand-guard — Dimensions and clearances*

ISO 6534:—¹⁾, *Forestry machinery — Portable chain-saw hand guards — Mechanical strength*

ISO 6535:1991, *Portable chain-saws — Chain brake performance*

ISO 7293:1997, *Forestry machinery — Portable chain-saws — Engine performance and fuel consumption*

ISO 7914:2002, *Forestry machinery — Portable chain-saws — Minimum handle clearance and sizes*

ISO 7915:1991, *Forestry machinery — Portable chain-saws — Determination of handle strength*

1) To be published. (Revision of ISO 6534:1992)

ISO 8334:—²⁾, *Forestry machinery — Portable chain-saws — Determination of balance and maximum holding moment*

ISO 9518:1998, *Forestry machinery — Portable chain-saws — Kickback test*

ISO 10726:1992, *Portable chain-saws — Chain catcher — Dimensions and mechanical strength*

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

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

ISO 13772, *Forestry machinery — Portable chain-saws — Non-manually actuated chain brake performance*

ISO 22867:2004, *Forestry machinery — Vibration test code for portable hand-held machines with internal combustion engine — Vibration at the handles*

ISO 22868:2005, *Forestry machinery — Noise test code for portable hand-held machines with internal combustion engine — Engineering method (Grade 2 accuracy)*

IEC 60745-1:2001, *Hand-held motor-operated electric tools — Safety — Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6531, ISO 12100-1, with the exception of ISO 6531:1999, definition 2.2.1.2, and the following apply.

3.1

chain-saw for tree service

tree service chain-saw

specialized chain-saw of limited mass designed for use by a trained operator for pruning and dismantling standing tree crowns

NOTE For an example, see Figure 1.

3.2

trained operator

person who has competence and knowledge in

- the use of, and particular hazards associated with using, a chain-saw (for tree service work) manufactured in accordance with the requirements of this part of ISO 11681, and
- the precautions to be taken to limit these hazards, including the wearing of the recommended personal protective equipment (PPE)

2) To be published. (Revision of ISO 8334:1985)