



SLOVENSKI STANDARD SIST EN ISO 19432:2012

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Nadomešča:
SIST EN ISO 19432:2008

Stroji in oprema za graditev objektov - Prenosni ročni rezalniki z motorjem z notranjim zgorevanjem - Varnostne zahteve (ISO 19432:2012)

Building construction machinery and equipment - Portable, hand-held, internal combustion engine driven cut-off machines - Safety requirements (ISO 19432:2012)

Baumaschinen und -ausrüstungen - Tragbare, handgeführte Trennschleifmaschinen mit Verbrennungsmotor - Sicherheit und Prüfungen (ISO 19432:2012)

Machines et matériels pour la construction des bâtiments - Tronçonneuses à disque, portatives, à moteur à combustion interne - Exigences de sécurité (ISO 19432:2012)

Ta slovenski standard je istoveten z: EN ISO 19432:2012

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 19432

July 2012

ICS 91.220

Supersedes EN ISO 19432:2008

English Version

**Building construction machinery and equipment - Portable,
hand-held, internal combustion engine driven cut-off machines -
Safety requirements (ISO 19432:2012)**

Machines et matériels pour la construction des bâtiments -
Tronçonneuses à disque, portatives, à moteur à
combustion interne - Exigences de sécurité (ISO
19432:2012)

Baumaschinen und -ausrüstungen - Tragbare,
handgeführte Trennschleifmaschinen mit
Verbrennungsmotor - Sicherheitsanforderungen (ISO
19432:2012)

This European Standard was approved by CEN on 23 June 2012.

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, 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 United Kingdom.



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Foreword

This document (EN ISO 19432:2012) has been prepared by Technical Committee ISO/TC 195 "Building construction machinery and equipment" in collaboration with 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 January 2013, and conflicting national standards shall be withdrawn at the latest by January 2013.

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 19432:2008.

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.

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Endorsement notice

The text of ISO 19432:2012 has been approved by CEN as a EN ISO 19432:2012 without any modification.

Annex ZA (informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/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 on machinery.

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 products falling within the scope of this standard.

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INTERNATIONAL STANDARD

ISO
19432

Second edition
2012-07-15

Building construction machinery and equipment — Portable, hand-held, internal combustion engine driven cut-off machines — Safety requirements

*Machines et matériels pour la construction des bâtiments —
Tronçonneuses à disque, portatives, à moteur à combustion interne —
Exigences de sécurité*

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ISO 19432:2012(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 19432 was prepared by Technical Committee ISO/TC 195, *Building construction machinery and equipment*.

This second edition cancels and replaces the first edition (ISO 19432:2006), which has been technically revised, primarily concerning:

- additional requirement for starting device (4.4);
- throttle trigger (4.6);
- unintentional movement (4.6.2);
- throttle lock (4.6.3);
- additional requirements for tank strength (4.10);
- additional requirements for transmission cover (4.12);
- clarification of the parts to be recognized as hot parts, including temperature limits (4.13.1);
- additional requirement for electromagnetic immunity;
- added requirement for declaration of uncertainties to noise and vibration values (5.1.1, B.8 and C.10);
- modifications in required markings (5.2) and warnings (5.3) including durability requirements for labels;
- modified calculation of values for equivalent sound power, sound pressure and hand vibration (Annexes B and C);
- stricter specification for accelerometer mounting (C.4.3) and position (C.5);
- inclusion of a simulated feeding force to the vibration test procedure (C.8);
- definition of machine positions (Annex D);
- additional information on reproducibility for noise and vibration measurements (Annex E);
- a new informative Annex F covering a list of significant hazards.

Introduction

This International Standard 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 International Standard.

When requirements of this type-C standard are different from those which are stated in type-A or -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.

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Building construction machinery and equipment — Portable, hand-held, internal combustion engine driven cut-off machines — Safety requirements

1 Scope

This International Standard specifies safety requirements, and measures for their verification, for the design and construction of portable, hand-held, internal combustion engine-driven, cut-off machines, intended to be used by a single operator in the cutting of construction materials, such as asphalt, concrete, stone and metal. It is applicable only to those machines designed purposely for use with a rotating, bonded-abrasive and/or super-abrasive (diamond) cut-off wheel having a maximum outer diameter of 430 mm, centre-mounted on, and driven by, a spindle shaft, where the top of the wheel rotates away from the operator (see Figure 1).

This International Standard deals with all significant hazards, hazardous situations or hazardous events significant to these machines when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. (See Annex F for a list of significant hazards.)

This International Standard specifies methods for the elimination or reduction of hazards arising from their use, as well as the type of information on safe working practices to be provided with the machines.

Cut-off wheel specifications are not considered in this International Standard; for such specifications, see, for example, ISO 603-7^[1], ISO 13942^[12] and ISO 22917^[15].

This International Standard is not applicable to machines manufactured before the date of its 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 3744:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for an essentially free field over a reflecting plane*

ISO 4871:1996, *Acoustics — Declaration and verification of noise emission values of machinery and equipment*

ISO 5349-2:2001, *Mechanical vibration — Measurement and evaluation of human exposure to hand-transmitted vibration — Part 2: Practical guidance for measurement at the workplace*

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

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

ISO 8041, *Human response to vibration — Measuring instrumentation*

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ISO 11201:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections*

ISO/TR 11688-1, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning*

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

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

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

ISO 16063-1, *Methods for the calibration of vibration and shock transducers — Part 1: Basic concepts*

ISO 20643:2005, *Mechanical vibration — Hand-held and hand-guided machinery — Principles for evaluation of vibration emission*

IEC 60745-1:2006, *Hand-held motor-operated electric tools — Safety — Part 1: General requirements*

IEC 61672-1:2002, *Electroacoustics — Sound level meters — Part 1: Specifications*

3 Terms and definitions

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

3.1
cut-off wheel
wheel composed of abrasive particles bonded together by an appropriate binder and incorporating, if necessary, some appropriate form of reinforcement, or made of metal or other materials of similar properties and having diamond, CBN particles or other suitable abrasive particles bonded to its rim

3.2
arbor hole
centre hole of the cut-off wheel used for mounting the cut-off wheel on the machine spindle

3.3
blotter
washers made from some compressible material (e.g. paper, card or similar), attached to each side of the cut-off wheel, the function of which is to smooth imperfections in the cut-off wheel and allow a limited degree of slip when the wheel stalls in use

3.4
choke
device for enriching the fuel air mixture in the carburettor, to aid starting

3.5
clutch
device for connecting and disconnecting the driven member to and from a rotating source of power

3.6
cut-off wheel guard
partial enclosure intended to deflect cutting debris, as well as pieces of the cut-off wheel in the event that the wheel is broken in operation

3.7**engine-stopping device**

device by which the stopping of the engine is initiated

3.8**flange contact surface**

area between the inner and outer circumference on the flange, which forms the contact surface between the flange and the cut-off wheel

3.9**flange assembly**

device provided to clamp and drive the cut-off wheel

3.10**handle**

device designed to facilitate safe and easy control of the machine

3.10.1**front handle**

handle located at or towards the front of the engine housing

3.10.2**rear handle**

handle located at or towards the rear of the engine housing

3.11**idle speed**

speed at which the engine runs with no load and throttle trigger released and the cut-off wheel does not rotate

3.12**reactive movement**

sudden and unexpected motion of the machine, which can occur when the rotating cut-off wheel contacts a foreign object during cutting or because of pinching

3.13**maximum depth of cut**

t

distance to which the cut-off wheel can enter the work-piece, as measured from the outer diameter of the wheel to the outside diameter of the flange

3.14**maximum cut-off wheel speed**

maximum permitted speed of a new cut-off wheel marked on the cut-off wheel

3.15**maximum spindle speed**

maximum speed at which the spindle rotates with a fully open throttle and no load

3.16**muffler**

device for reducing engine exhaust noise and directing the exhaust gases

3.17**rated speed**

engine speed at which maximum power occurs

3.18**spindle**

shaft of the cut-off machine, which supports, retains and drives the cut-off wheel in connection with the flanges