ICS 91.220 SLOVENSKÁ TECHNICKÁ NORMA August 2020

| STN | **Stavebné stroje a ich výbava<br>Prenosné, rukou vedené rozbrusovačky so spaľovacím motorom<br>Časť 1: Bezpečnostné požiadavky na rozbrusovačky s rotačnými brúsnymi kotúčmi upnutými v strede (ISO 19432-1: 2020)** | **STN<br>EN ISO 19432-1**<br><br>27 9603 |
|---|---|---|

Building construction machinery and equipment - Portable, hand-held, internal combustion engine-driven abrasive cutting machines - Part 1: Safety requirements for cut-off machines for centre-mounted rotating abrasive wheels (ISO 19432-1:2020)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/20

Obsahuje: EN ISO 19432-1:2020, ISO 19432-1:2020

Oznámením tejto normy sa ruší
STN EN ISO 19432 (27 9603) z októbra 2012

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN ISO 19432-1

February 2020

ICS 91.220

Supersedes EN ISO 19432:2012

English Version

# Building construction machinery and equipment - Portable, hand-held, internal combustion engine-driven abrasive cutting machines - Part 1: Safety requirements for cut-off machines for centre-mounted rotating abrasive wheels (ISO 19432-1:2020)

Machines et matériels pour la construction des bâtiments - Machines de coupe par abrasion, portatives, à moteur à combustion interne - Partie 1: Exigences de sécurité des tronçonneuses à disque abrasif monté au centre (ISO 19432-1:2020)

Baumaschinen und -ausrüstungen - Tragbare, handgeführte Trennschleifmaschinen mit Verbrennungsmotor - Teil 1: Sicherheitsanforderungen für Trennschleifmaschinen mit um die Antriebsachse rotierender Trennschleifscheibe (ISO 19432-1:2020)

This European Standard was approved by CEN on 26 November 2019.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**



Ref. No. EN ISO 19432-1:2020 E

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## European foreword

This document (EN ISO 19432-1:2020) 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 August 2020, and conflicting national standards shall be withdrawn at the latest by August 2020.

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 ISO 19432:2012.

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 the relationship with EU Directive(s) 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, 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.

## Endorsement notice

The text of ISO 19432-1:2020 has been approved by CEN as EN ISO 19432-1:2020 without any modification.

# Annex ZA
(informative)

# Relationship between this European Standard and the essential requirements of Directive 2006/42/EC machinery, and amending Directive 95/16/EC (recast) [2006 L157] aimed to be covered

This European Standard has been prepared under a Commission's standardization request M/396 to provide one voluntary means of conforming to essential requirements of Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast) [2006 L157].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

**Table ZA.1 — Correspondence between this European Standard and Directive 2006/42/EC [2006 L157]**

| Essential Requirements of Directive 2006/42/EC | Clause(s)/subclause(s) of this EN | Remarks/Notes |
|---|---|---|
| 1.1.2. Principles of safety integration | 4.1 | |
| 1.1.3. Materials and products | 4.8, 4.10, 4.14, 4.15,4.16, 5.1, 5.3, Annex A | |
| 1.1.5. Design of machinery to facilitate its handling | 4.2, 4.4, 4.5, 4.6, 4.8, 4.9, 4.10, 4.11, 4.12, 4.14, 4.19, 4.20, 5.1, 5.2 | |
| 1.1.6. Ergonomics | 4.2, 4.4, 4.5, 4.6, 4.10, 5.1, 5.2 | |
| 1.1.7. Operating positions | 4.8, 4.9, 4.10, 4.14, 5.1, 5.3 | |
| 1.2.1. Safety and reliability of control systems | 4.2, 4.4, 4.5, 4.6, 4.10, 4.21 | |
| 1.2.2. Control devices | 4.2, 4.4, 4.5, 4.6, 4.10 | |
| 1.2.3. Starting | 4.4, 4.7 | |
| 1.2.4. Stopping | 4.5 | |
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| 1.4.2.1. Fixed guards | 4.12 | |
| 1.4.2.3. Adjustable guards restricting access | 4.14 | |
| 1.5.1. Electricity supply | 4.11 | |
| 1.5.5. Extreme temperatures | 4.13, 5.3 | |
| 1.5.6. Fire | 4.10, 5.1, 5.3 | |

| Essential Requirements of Directive 2006/42/EC | Clause(s)/subclause(s) of this EN | Remarks/Notes |
|---|---|---|
| 1.1.2. Principles of safety integration | 4.1 | |
| 1.5.8. Noise | 4.19, Annex B | |
| 1.5.9. Vibrations | 4.2, 4.20, 5.1, 5.3, Annex C | |
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| 1.6. Maintenance | 5.1 | |
| 1.7. Information | 5.1, 5.2, 5.3 | |
| 1.7.1. Information and warnings on the machinery | 5.2, 5.3 | |
| 1.7.1.1. Information and information devices | 5.1, 5.2, 5.3 | |
| 1.7.3. Marking of machinery | 5.2 | |
| 1.7.4. Instructions | 5 | |
| 1.7.4.1. General principles for the drafting of instructions | 5.1 | |
| 1.7.4.2. Contents of the instructions | 5.1, Annex B, Annex C | |
| 1.7.4.3. Sales literature | 5.1, Annex B, Annex C | |
| 2.2. Portable hand-held and/or hand-guided machinery | 4.2, 4.5, 4.6, 4.20, 5, Annex C | |

**WARNING 1 —** Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

**WARNING 2 —** Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

INTERNATIONAL STANDARD

**ISO 19432-1**

First edition
2020-01

# Building construction machinery and equipment — Portable, hand-held, internal combustion engine-driven abrasive cutting machines —

## Part 1: Safety requirements for cut-off machines for centre-mounted rotating abrasive wheels

*Machines et matériels pour la construction des bâtiments — Machines de coupe par abrasion, portatives, à moteur à combustion interne —*

*Partie 1: Exigences de sécurité des tronçonneuses à disque abrasif monté au centre*

Reference number
ISO 19432-1:2020(E)

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# 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 195, *Building construction machinery and equipment*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 151, *Construction equipment and building material machines - Safety*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 19432-1 cancels and replaces ISO 19432:2012, which has been technically revised.

The main changes compared to the previous edition are as follows:

— update of normative references;

— update/revision of terms and definitions;

— revision of handle requirements;

— update of figures;

— revision of requirements for fuel tanks, oil tanks and fuel lines;

— revision of Clause 5, information for use;

— revision of requirements for labels.

A list of all parts in the ISO 19432 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

# Introduction

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

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 organisations, 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:

— machine users/employers (small, medium and large enterprises);

— machine users/employees (e.g. trade unions, organizations for people with special needs);

— service providers, e. g. for maintenance (small, medium and large enterprises);

— 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 -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.

**INTERNATIONAL STANDARD** **ISO 19432-1:2020(E)**

# Building construction machinery and equipment — Portable, hand-held, internal combustion engine-driven abrasive cutting machines —

# Part 1: Safety requirements for cut-off machines for centre-mounted rotating abrasive wheels

## 1 Scope

This document 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 (for example 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 document 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 document 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 document. Cut-off wheels are deemed to comply to existing cut-off wheel standards.

NOTE For example see Bibliography.

All through the document, portable, hand-held, internal combustion engine-driven cut-off machines are called “cut-off machines”.

This document is not applicable to machines 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.

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

 

ISO 8041-1:2017, *Human response to vibration — Measuring instrumentation — Part 1: General purpose vibration meters*

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 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 16063-1:1998, *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 61672-1:2013, *Electroacoustics — Sound level meters — Part 1: Specifications*