
**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*

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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.

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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*