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Masonry and stone cutting-off machines for job site - Safety

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. 02/22

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English Version

Masonry and stone cutting-off machines for job site - Safety

Scies de chantier à tronçonner les matériaux - Sécurité

Steintrennmaschinen für den Baustelleneinsatz -
Sicherheit

This European Standard was approved by CEN on 15 November 2021.

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.

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

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

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European foreword

This document (EN 12418:2021) has been prepared by 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of an identical text or by endorsement, at the latest by June 2022, and conflicting national standards shall be withdrawn at the latest by June 2022.

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 12418:2000+A1:2009.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

The main differences between this document and EN 12418:2000+A1:2009 are as follows:

- a) normative references (Clause 2) revised and updated;
- b) list of significant hazards revised and updated;
- c) requirements for design of the cutting-off wheel guard;
- d) requirements for warnings;
- e) requirements for Information for use;
- f) requirements for operator's instructions;
- g) requirements for noise test code;
- h) illustrations and pictograms updated.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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.

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Introduction

This document is a type-C standard as stated in EN 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 organizations, 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 in 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 type-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.

1 Scope

This document applies to transportable masonry and stone cutting-off machines stationary during work, principally used on job site building construction for cutting-off stones, other mineral construction materials and composite materials having at least one supporting surface. The power for the tool rotation is supplied by electrical or internal combustion prime motor.

This document deals with all significant hazards, hazardous situations or hazardous events relevant to masonry and stone cutting-off machines for job site (see Annex A), when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer. This document specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during the lifetime of the machinery as described in EN ISO 12100:2010, 5.4.

These machines are designed for use with rotating diamond cutting-off wheels with a continuous rim and/or segmented rim.

This document does not apply to:

- metal cutting-off machines;
- wood and timber sawing machines;
- machines with a feed or descent mechanism other than manual, or with a pedal;
- mobile machines on a trolley travelling on the ground;
- hand-held portable grinding and cutting-off machines;
- hand-held portable grinding and cutting-off machines mounted on a support to be used in a fixed position.

This document does not cover the operation of transportable masonry and stone cutting-off machines in potential explosive atmospheres.

In this document, the masonry and stone cutting-off machines for job site construction are called: “cutting-off machines” or “machines”, and cutting-off wheels are also called: “tools”.

This document applies to machines which are manufactured after the date of approval of the standard by CEN.

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.

EN 13236:2019, *Safety requirements for superabrasive products*

EN 60204-1:2018, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2016, modified)*

EN 60335-2-41:2003,¹ *Household and similar electrical appliances — Safety — Part 2-41: Particular requirements for pumps (IEC 60335-2-41:2002)*

¹ As impacted by EN 60335-2-41:2003/A1:2004 and EN 60335-2-41:2003/A2:2010.

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EN 60529:1991,² *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1991)*

EN 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 3744:2010)*

EN ISO 4871:2009, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN 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 11201:2010)*

EN ISO 11688-1:2009, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1:1995)*

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

EN ISO 13732-1:2008, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces (ISO 13732-1:2006)*

EN ISO 13849-1:2015, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2015)*

EN ISO 13854:2019, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body (ISO 13854:2017)*

EN ISO 13857:2019, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2019)*

EN ISO 14120:2015, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards (ISO 14120:2015)*

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