



**SLOVENSKI STANDARD**  
**oSIST prEN 13862:2019**

**01-januar-2019**

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**Talni odrezovalni stroji - Varnost**

Floor cutting-off machines - Safety

Bodentrennschleifmaschinen - Sicherheit

Machines à scier les sols - Sécurité

**Ta slovenski standard je istoveten z: prEN 13862**

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**prEN 13862**

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English Version

## Floor cutting-off machines - Safety

Machines à scier les sols - Sécurité

Bodentrennschleifmaschinen - Sicherheit

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 151.

If this draft becomes a European Standard, 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.

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

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## European foreword

This document (prEN 13862:2018) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 13862:2001+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 standard and EN 13862:2001+A1:2009 are as follows:

- a) Normative references (Clause 2) revised and updated;
- b) List of significant hazards revised and updated;
- c) Requirements for warnings;
- d) Requirements for Information for use;
- e) Requirements for operator's instructions;
- f) Requirements for noise test code;
- g) Illustrations and pictograms updated.

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## prEN 13862:2018 (E)

### 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 pedestrian controlled floor sawing machines having power feed, manual feed or hand feed (see 3.2) for sawing, grooving and milling floor surfaces made of concrete, asphalt and similar mineral building materials where the main power is supplied by electric or internal combustion prime engine. The power transmission of floor sawing machines is mechanical or hydraulic.

This document deals with all significant hazards pertinent to floor sawing machines, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). This document specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards.

These machines are designed for use with rotating cutting-off wheels for wet and dry cutting. These cutting-off wheels can be either a diamond cutting-off wheel or a boron nitride cutting-off wheel, according to EN 13236.

This document does not apply to:

- self-propelled ride-on floor sawing machines;
- machines moving along a rail;
- hand-held portable cutting off machines for construction materials mounted on a mobile support, to be used as floor saws;
- remote controlled machines.

This document covers electrical hazards by making reference to relevant European Standards (see 4.2).

Those hazards that are relevant for all mechanical, electrical, hydraulic and other equipment or machinery and that are dealt with in standards for common use are not covered by this document. Reference to pertinent standards is made where such standards are applicable and so far necessary.

In this document, floor sawing machines are called "machines", and cutting-off wheels are called "tools".

This document applies primarily 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 206:2013+A1:2016, *Concrete — Specification, performance, production and conformity*

EN 12096, *Mechanical vibration — Declaration and verification of vibration emission values*

EN 60204-1:2006, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005)*

EN 60335-1:2012, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1:2010, modified)*

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

EN 60529:1991, *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

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EN 62841-1:2015, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery — Safety — Part 1: General requirements (IEC 62841-1:2014)*

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 4413:2010, *Hydraulic fluid power — General rules and safety requirements for systems and their components (ISO 4413:2010)*

EN 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 5349-2:2001)*

EN ISO 7010:2012, *Graphical symbols — Safety colours and safety signs — Registered safety signs (ISO 7010:2011)*

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

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

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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)*

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

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

EN ISO 16089:2015, *Machine tools — Safety — Stationary grinding machines (ISO 16089:2015)*

EN ISO 20643:2008, *Mechanical vibration — Hand-held and hand-guided machinery — Principles for evaluation of vibration emission (ISO 20643:2005)*

ISO 5348, *Mechanical vibration and shock — Mechanical mounting of accelerometers*

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

### 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at <http://www.electropedia.org/>

— ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1

#### **floor sawing machine**

mobile machine used on sites, designed for sawing, grooving and grinding ground surfaces made of concrete, asphalt and similar mineral building materials which is pedestrian controlled

### 3.2

#### **types of machines**

floor sawing machines may be of the following types:

#### 3.2.1

##### **hand feed machine**

machine in which the feed movement is effected by the pushing action of the operator

#### 3.2.2

##### **machine with manual feed by mechanical means**

machine in which the feed movement is effected by manual operation of a crank or wheel

#### 3.2.3

##### **self-propelled machine**

machine whose feed movement is obtained by a power source via mechanical or hydraulic power transmission. Self-propelled machines are pedestrian controlled

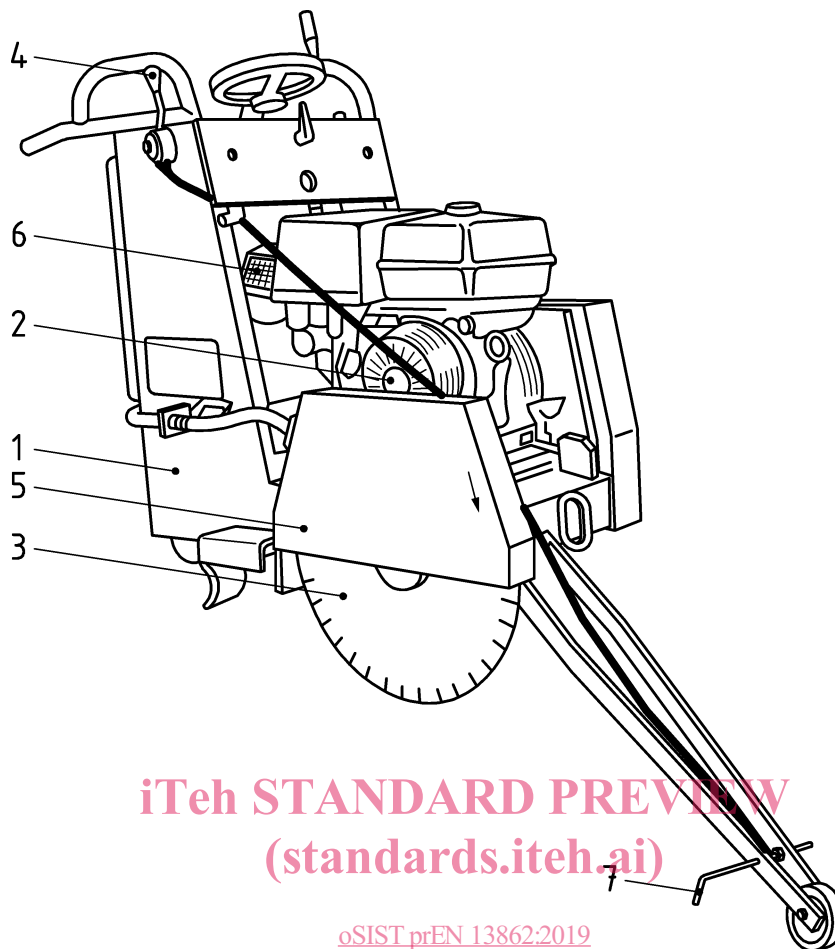
### 3.3

#### **parts of a floor sawing machine** (standards.iteh.ai)

a floor sawing machine generally comprises the parts shown in Figure 1

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### Key

- 1 frame
- 2 electric motor, or internal combustion engine which generates the power for driving the tool(s) and which generates the power for the feeding movement to the machine (for self-propelled machines)
- 3 tool(s) (illustrated as a cutting-off wheel)
- 4 control devices for the functions and feed of the machine
- 5 guards limiting the hazard of contact in dangerous areas
- 6 water supply system for cooling the diamond cutting-off wheel(s)
- 7 sawing guiding device of the machine (when necessary)

Note 1 to entry: Figure 1 is an example of one of the many machines available for floor sawing, grooving and milling. It illustrates the main components in its construction.

**Figure 1 — Typical example of a pedestrian controlled floor sawing machine**

**3.4****cutting head**

assembly comprising the power unit, the rotating tool(s) and its fixing attachment. It may be integral to the frame of the machine or the drive unit which causes forward movement of the machine along the ground, in order to perform sawing, grooving or milling operation

**3.5****rated spindle speed**

speed of the drive spindle, in revolutions per minute ( $\text{min}^{-1}$ ) at the rated conditions specified by the machine manufacturer without cutting-off wheel(s) and under no load

**3.6****tool(s)**

rotating abrasive tool(s) which perform(s) the cutting operation. The tool(s) is(are) (a) rotating (segmented) diamond or boron nitride cutting-off wheel according to EN 13236

Note 1 to entry: Abrasive wheels may be mounted either alone or as several units together according to the design and usage parameters of the machine.

**3.7****flange**

mounting device including several parts which securely hold and position the rotating tool(s) on the drive spindle

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**3.8****tool guard**

guard which encloses the non-working part of the rotating tool

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**3.9****nominal mass**

the mass of the machine equipped with all its dismantlable parts, but without the tool(s) mounted, the attached tank(s) being empty

**3.10****maximum operating mass**

the mass of the machine equipped with all its dismantlable parts, ready for use, with the tool(s) mounted and the attached tank(s) being full

**3.11****cutting area**

area where only persons are allowed who are instructed in the cutting process

**4 Safety requirements and/or measures****4.1 General**

Machinery shall comply with the safety requirements and/or protective/risk reduction measures of this clause. In addition, the machine shall be designed according to the principles of EN ISO 12100:2010 for relevant but not significant hazards which are not dealt with by this document.

For the application of EN ISO 4413:2010, EN ISO 13857, EN ISO 14120:2015 and EN 60204-1:2006 the manufacturer shall carry out an adequate risk assessment of their requirements, where it is necessary to make choices.