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Nadomešča:
SIST EN 12348:2000+A1:2009

Stabilni vrtalni stroji (na stojalu) - Varnost

Core drilling machines on stand - Safety

Kernbohrmaschinen auf Ständer - Sicherheit

Foreuses à béton (carotteuses) sur colonne - Sécurité

Ta slovenski standard je istoveten z: prEN 12348

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English Version

Core drilling machines on stand - Safety

Foreuses à béton (carotteuses) sur colonne - Sécurité

Kernbohrmaschinen auf Ständer - 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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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prEN 12348:2023 (E)**European Foreword**

This document (prEN 12348:2023) 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 12348:2000+A1:2009.

In comparison with the previous edition, the following technical modifications have been made:

- a) normative references revised and updated;
- b) delimitation to EN IEC 62841-3-6:2014 implemented;
- c) terms and definitions revised and updated;
- d) safety requirements revised and updated;
- e) requirements for warnings;
- f) requirements for Information for use;
- g) requirements for operator's instructions;
- h) figures and safety signs updated;
- i) list of significant hazards revised and updated.

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 relationship with EU Directives, see informative Annex ZA, which is an integral part of this document.

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Introduction

This document is a type-C standard as stated in EN ISO 12100:2010.

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 the 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 and 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.

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prEN 12348:2023 (E)**1 Scope**

This document applies to core drilling machines on transportable stands equipped with a diamond or similar superabrasive core drill bit, with or without a water supply connection device, and intended to drill holes into stone, concrete and similar mineral materials in a stationary position where the power for the tool rotation is supplied by an electrical, hydraulic, pneumatic or internal combustion prime motor. The drill unit can be equipped with a soft impact device.

The feed movement of the drill head and core drill bit can be effected by manual, electrical, hydraulic or pneumatic means.

This document deals with all significant hazards, hazardous situations and hazardous events relevant to core drilling machines on a stand, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Annex A).

This document specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards associated during the lifetime of the machine, see EN ISO 12100:2010, 5.4.

This document does not apply to:

- percussive or rotary-percussive rock drills either mounted or unmounted;
- hand-held power drills;
- hydraulic or pneumatic power-supply sources;
- mobile undercarriages to which machines can be fitted;
- machinery for drilling and foundation equipment (which is covered by EN 16228-1:2014 to -7:2014);
- machinery with electric main motor $\leq 3,7$ kW which is covered by EN 62841-3-6:2014.

In this document, core drilling machines on a stand are called “machines” and diamond core drill bits are called “tools”.

NOTE The term “diamond” is used as a generic word which covers all varieties of superabrasive products such as diamond, boron nitride or similar.

This document does not apply to core drilling machines on stand manufactured before the date of its publication. <https://standards.iteh.ai/catalog/standards/sist/58f42901-16ad-40aa-86d2-c97ce560cc2f/osist-pren-12348-2024>

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 60204-1:2018, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements*

EN 60335-1:2012, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1:2001, modified)*

EN 60335-2-41:2012, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1:2001, modified)*

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

EN 62841-1:2015+AC:2015, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery — Safety — Part 1: General requirements (IEC 62841-1:2014, modified + Cor. 1:2014 + Cor. 2:2015)*

EN 62841-3-6:2014, *Electric motor-operated hand-held tools, transportable tools and lawn and garden machinery — Safety — Part 3-6: Particular requirements for transportable diamond drills with liquid system (IEC 62841-3-6:2014, modified)*

EN IEC 60335-2-41:2021, *Household and similar electrical appliances — Safety — Part 2-41: Particular requirements for pumps (IEC 60335-2-41 2012)*

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

EN ISO 4414:2010, *Pneumatic fluid power — General rules and safety requirements for systems and their components (ISO 4414:2010)*

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)*

prEN ISO 13849-1:2021, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO/DIS 13849-1:2021)*

EN ISO 13850:2015, *Safety of machinery — Emergency stop function — Principles for design (ISO 13850:2015)*

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

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 18752:2022, *Rubber hoses and hose assemblies — Wire- or textile-reinforced single-pressure types for hydraulic applications — Specification (ISO 18752:2022)*

ISO 5348:2021, *Mechanical vibration and shock — Mechanical mounting of accelerometers*

ISO 16063-1:1998, *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 12100:2010 and the following apply.

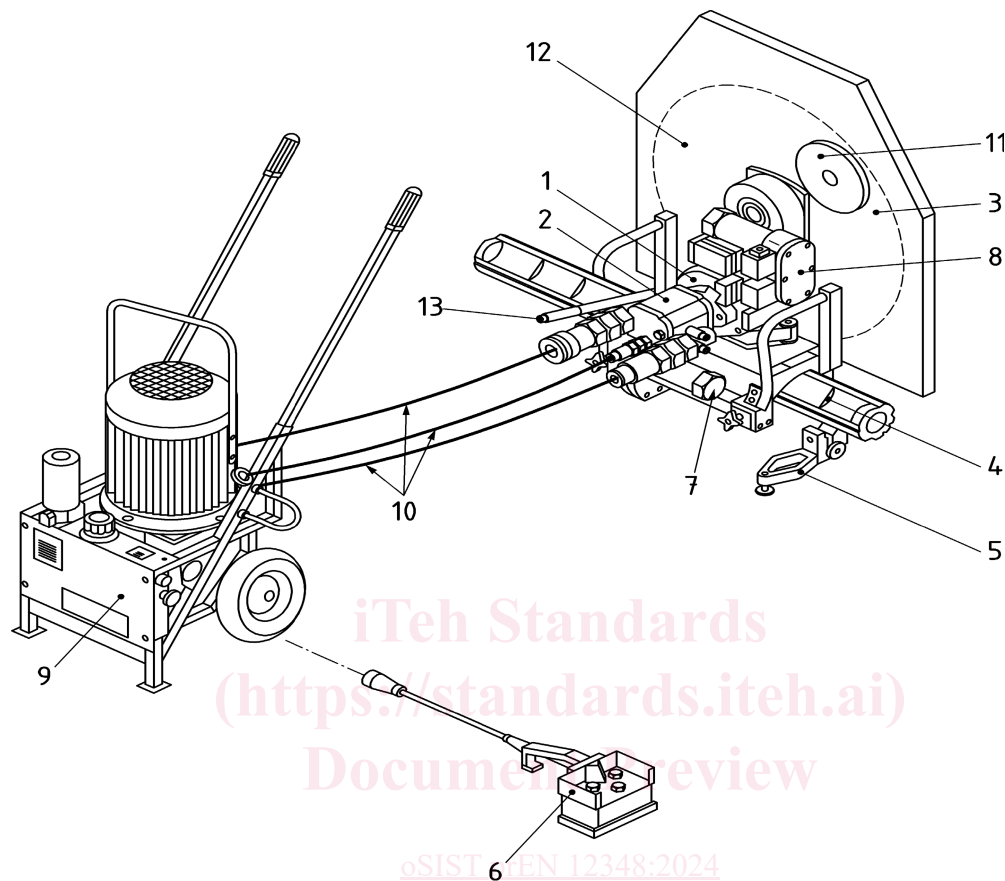
ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

prEN 12348:2023 (E)**3.1
core drilling device**

device with a manual or powered feed used to drill holes with a diamond core bit into walls, floors and ceilings consisting of a core drill unit mounted on a transportable stand having a drive spindle equipped with a core drill bit

Note 1 to entry: The components of a core drilling device are shown in Figure 1.



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Key

- 1 drill stand including a column which can be tiltable and a base
- 2 core drill unit
- 3 core drill bit including any connecting accessories (not being part of the machine)
- 4 feed mechanism to move the drill unit up and down
- 5 water supply or dust suction system
- 6 residual current device (RCD) if any
- 7 water or dust collection device

Figure 1 — Main parts of a core drilling device

3.2

core drill unit

drilling unit consists of all the components required for drilling

EXAMPLE The following list gives typical examples:

- drill head with spindle driving device. This driving device can be: internal combustion, electric, pneumatic or hydraulic;
- drive spindle with fixture for core drill bit;
- water supply and/or dust extraction system;
- on/off control for rotation;
- on/off control for feed;
- on/off control for water supply.

3.3

drill stand

consists of a base with means for fixing it in position, a column which can be tiltable with means for guiding the drilling unit and optional wheels for transport

Note 1 to entry: The fixing of the base can be an anchor, a clamp or similar.

3.4

core drill bit

rotating abrasive tool(s) which perform(s) the drilling operation

Note 1 to entry: The tool is a rotating (segmented or continuous rim) diamond or similar superabrasive drill that removes a cylindrical core from the drill hole.

3.5

rated spindle speed

speed of the drive spindle, in revolutions per minute, at rated conditions specified by the machine manufacturer without tool and under no-load

3.6

nominal mass

mass of the device or its components in kg equipped with all its dismountable parts, but without the tool mounted and the attached tank(s) being empty

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.

Covering each significant hazard is sufficient for covering combinations of hazards.

4.2 Mechanical hazards

4.2.1 General

Components and parts which shall be manually handled, all the accessible parts, with the exception of the drill bit, shall be free of sharp edges and burrs which could generate hazards when setting, using, handling, and maintaining the machine. Burrs resulting from, for example, manufacturing, casting or welding shall be eliminated and sharp edges shall be smoothed.