



SLOVENSKI STANDARD
SIST EN 12348:2000

01-december-2000

Stabilni vrtalni stroji - Varnost

Core drilling machines on stand - Safety

Kernbohrmaschinen auf Ständer - Sicherheit

Foreuses a béton (carotteuses) sur colonne - Sécurité

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: EN 12348:2000

SIST EN 12348:2000
<https://standards.iteh.ai/catalog/standards/sist/cc/15366-6658-4e18-94cf-34804bfa83ed/sist-en-12348-2000>

ICS:

25.080.40

Vrtalniki

Drilling machines

SIST EN 12348:2000

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 12348:2000

<https://standards.iteh.ai/catalog/standards/sist/ce7f5366-b638-4e18-94cf-34804bfa83ed/sist-en-12348-2000>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12348

July 2000

ICS 25.080.40

English version

Core drilling machines on stand - Safety

Foreuses à béton (carotteuses) sur colonne - Sécurité

Kernbohrmaschinen auf Ständer - Sicherheit

This European Standard was approved by CEN on 26 June 2000.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 12348:2000

<https://standards.iteh.ai/catalog/standards/sist/ce7f366-b638-4e18-94cf-34804bfa83ed/sist-en-12348-2000>



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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword	3
0 Introduction	4
1 Scope.....	4
2 Normative references.....	5
3 Terms and definitions.....	6
3.1 Core drilling machine	6
3.2 Drilling unit	7
3.3 Drill stand.....	8
3.4 Rated spindle speed	8
3.5 Nominal mass	8
3.6 Maximum operating mass	8
4 List of significant hazards.....	8
5 Safety requirements and/or measures	10
5.1 Mechanical hazards	10
5.2 Electrical hazards.....	13
5.3 Ergonomics.....	13
5.4 Thermal hazards.....	13
5.5 Exhaust fumes (internal combustion engine machines) and exhaust compressed air (pneumatic machines).....	14
5.6 Hydraulic and pneumatic machines.....	14
5.7 Fluid containers.....	15
5.8 Water supply and dust emission	15
5.9 Rotational speed	15
5.10 Noise.....	15
5.11 Maintenance	16
6 Verification of safety requirements and/or measures	16
7 Information for use.....	16
7.1 Marking.....	16
7.2 Accompanying documents	17
Annex A (normative) Noise test code - Grade 2 of accuracy.....	21
Annex B (normative) Pictograms	24
Annex C (normative) Verification of surface temperature.....	25
Annex ZA (informative) Relationship of this European Standard with EU Directives	26
Bibliography.....	27

SIST EN 12348:2000

<https://standards.iteh.ai/catalog/standards/sist/ce7f5366-b638-4e18-94cf-34804bfa83ed/sist-en-12348-2000>

Foreword

This European Standard 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 January 2001, and conflicting national standards shall be withdrawn at the latest by January 2001.

This European Standard 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 Directive(s), see informative Annex ZA, which is an integral part of this standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

The annex A is normative and contains "Noise test code - Grade 2 of accuracy", annex B is normative and contains "Pictograms", annex C is normative and contains "Verification of surface temperature", and the annex ZA is informative and contains „Relationship of this European Standard with EU Directives“.

This European Standard also contains a Bibliography.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 12348:2000](https://standards.iteh.ai/catalog/standards/sist/cc7f5366-b638-4e18-94cf-34804bfa83ed/sist-en-12348-2000)

<https://standards.iteh.ai/catalog/standards/sist/cc7f5366-b638-4e18-94cf-34804bfa83ed/sist-en-12348-2000>

0 Introduction

This European standard is a Type C-standard as stated in EN 292.

The machinery concerned and the extent to which hazards are covered are indicated in the scope of this standard.

This European standard has been prepared by taking into account the safety requirements of EN 791:1995 which are applicable to core drilling machines on a stand.

1 Scope

This European Standard applies to core drilling machines on transportable stands equipped with a diamond core drill bit, usually with 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 feed movement of the drill head and core drill bit may be effected by manual, mechanical or hydraulic means.

This European Standard deals with all significant hazards pertinent to core drilling machines on a stand when used as intended and under the conditions foreseen by the manufacturer (see clause 4). This standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards.

This standard 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

This European Standard does not apply to machinery covered by EN 791:1995.

This European Standard covers electrical hazards by making reference to relevant European Standards (see 5.2).

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

In this European Standard, 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 abrasive products such as diamond, boron nitride.

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

2 Normative references

This European Standard incorporates by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by Amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 292-1:1991	Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology
EN 292-2:1991	Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles and specifications
EN 294:1992	Safety of machinery - Safety distances to prevent danger zones being reached by the upper limbs
EN 563:1994	Safety of machinery - Temperatures of touchable surfaces - Ergonomics data to establish temperature limit values for hot surfaces
EN 791:1995	Drill rigs - Safety
EN 953:1997	Safety of machinery – Guards - General requirements for the design and construction of fixed and movable guards
EN 954-1:1996	Safety of machinery - Safety related parts of control systems - Part 1: General principles for design
EN 982:1996	Safety of machinery - Safety requirements for fluid power systems and their components - Hydraulics
EN 983:1996	Safety of machinery - Safety requirements for fluid power systems and their components - Pneumatics
EN 1070:1998	Safety of machinery - Terminology
EN ISO 3744:1995	Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering method in an essentially free field over a reflecting plane (ISO 3744:1994)
EN ISO 11201:1995	Acoustics - Noise emitted by machinery and equipment - Measurement of emission sound pressure levels at the work station and at other specified positions - Engineering method in an essential free field over a reflecting plane (ISO 11201:1995)
EN 60204-1:1997	Safety of machinery - Electrical equipment of machine - Part 1: General requirements (IEC 60204-1:1997)
EN 60335-1:1994	Safety of household and similar electrical appliances - Part 1: General requirements (IEC 60335-1:1991, modified)
EN 60335-2-41:1996	Safety of household and similar electrical appliances - Part 2: Particular requirements for pumps for liquids having a temperature not exceeding 35 °C (IEC 60335-2-41:1996)

EN 61029-1:2000	Safety of transportable motor operated electric tools - Part 1: General requirements (IEC 61029-1:1990, modified)
prEN 61029-2-6:1992	Safety of transportable motor operated electric tools - Part 2-6: Particular requirements for diamond drills with water supply

3 Terms and definitions

For the purposes of this European Standard the terms and definitions stated in EN 1070:1998 apply.

Additional terms and definitions specifically needed for this European Standard are added below.

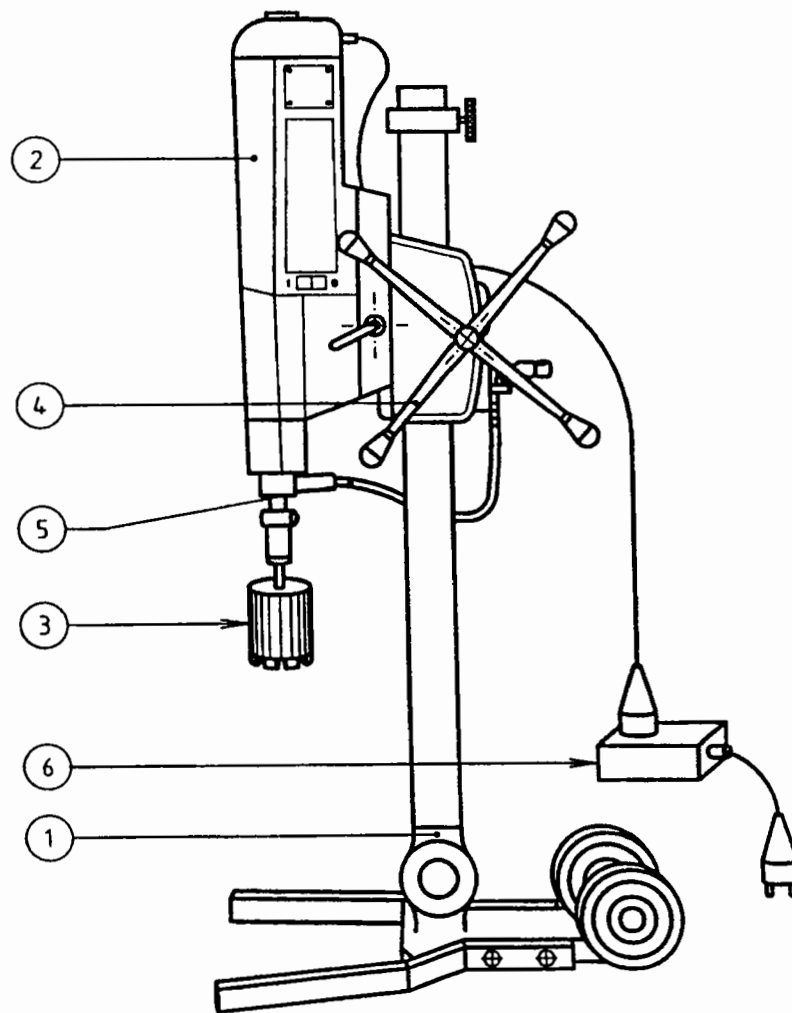
3.1 Core drilling machine

Machine used to drill holes with a diamond core bit into walls, floors and ceilings made of concrete, natural stone and other mineral building materials. The machine is mounted on a transportable stand having a drive spindle which is equipped with a core drill bit. It is (generally) equipped with a water supply. It may have manual or powered feed. Figure 1 shows a typical example of a core drilling machine.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 12348:2000](https://standards.iteh.ai/catalog/standards/sist/cc7f5366-b638-4e18-94cf-34804bfa83ed/sist-en-12348-2000)

<https://standards.iteh.ai/catalog/standards/sist/cc7f5366-b638-4e18-94cf-34804bfa83ed/sist-en-12348-2000>



Key

- 1 Frame (drill-stand) including a column which may be tiltable and a base
- 2 Drilling unit
- 3 Diamond core drill bit including any connecting accessories (not being part of the machine)
- 4 Control devices for the operating functions and feed mechanism of the machine
- 5 Water supply system
- 6 Residual current device (RCD)

Figure 1: Main parts of a core drilling machine

<https://standards.iteh.ai/catalog/standards/sist/cc7f5366-b638-4e18-94cf-34804bfa83ed/sist-en-12348-2000>

3.2 Drilling unit

The drilling unit consists of all the components required for drilling. The following list is a typical example:

- drill head with prime mover. This prime mover may be: internal combustion, electric, pneumatic, or hydraulic;
- drive spindle

- water supply system;
- on/off control for feed;
- on/off control for rotation;
- on/off control for water supply.

3.3 Drill stand

This contains all the devices for positioning and fixing:

- base with means for fixing it in position by e.g. anchors or clamps. It can be equipped with additional wheels for transport ;
- column, (may be tiltable), equipped with means for guiding the drilling unit.

3.4 Rated spindle speed

Speed of the drive spindle, in revolutions per minute (min^{-1}), at rated conditions specified by the machine manufacturer without tool and under no load.

3.5 Nominal mass

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

3.6 Maximum operating mass

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

4 List of significant hazards

This clause contains all significant hazards and hazardous situations, as far as they are dealt with in this European Standard, identified by risk assessment significant for this type of machinery and which require action to eliminate or reduce risk.

SIST EN 12348:2000

<https://standards.iteh.ai/catalog/standards/sist/7f5366-b638-418-94cf-34804bfa83ed/sist-en-12348-2000>

Table 1: List of significant hazards

	Hazards	Relevant subclauses
4.1	Crushing hazard	5.1.2, 5.1.4, 5.1.5, 7.2
4.2	Shearing hazard	5.1.2, 5.1.5, 7.2

(continued)

Table 1: List of significant hazards

	Hazards	Relevant subclauses
4.3	Cutting and severing hazard	5.1.1, 5.1.2, 5.1.3, 5.1.5
4.4	Entanglement hazard	5.1.2, 5.1.3, 5.1.5
4.5	Drawing-in or trapping hazard	5.1.2, 5.1.3, 5.1.5
4.6	Impact hazard	5.1.2, 5.1.4
4.7	Fluid injection hazard	5.1.7, 5.7
4.8	Hazards caused by ejection of parts (material/work pieces)	5.1.4, 5.1.5, 5.9, 7.2
4.9	Hazards caused by loss of stability (machinery and machine parts)	5.1.4, 7.2
4.10	Slip, trip and fall hazard in relationship with Machinery	5.7, 7.2
4.11	Hazards caused by either direct or indirect electrical contact	5.2, 7.2
4.12	Hazards resulting in burns and/or scalds, by possible contact of persons with flames, explosions or by radiation from heat sources	5.4, 7.2
4.13	Health damaging effects of a hot or cold work environment or of noise	5.10, 7.2
4.14	Hazards resulting from contact with or inhalation of harmful fluids, gases, mists, fumes and dusts	5.5, 5.8, 7.2
4.15	Hazards caused by fire and/or explosion	7.2
4.16	Unhealthy postures or excessive efforts	5.3, 7.2
4.17	Hazards caused by (adequate local lighting)	7.2
4.18	Hazards caused by human errors	7.1, 7.2
4.19	Hazard combinations	5.1.1, 7.1, 7.2
4.20	Hazard caused by failure of energy supply (of energy and/or control circuits)	5.1.5, 5.1.6, 5.2, 7.2
4.21	Hazards caused by failure/disorder of control system	5.1.5, 5.2, 7.2

(continued)