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Drilling and foundation equipment - Safety - Part 7: Interchangeable auxiliary equipment

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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Drilling and foundation equipment - Safety - Part 7: Interchangeable auxiliary equipment

Machines de forage et de fondation - Sécurité - Partie 7
: Équipements complémentaires interchangeables

Geräte für Bohr- und Gründungsarbeiten - Sicherheit -
Teil 7: Auswechselbare Zusatzausrüstungen

This European Standard was approved by CEN on 6 March 2014 and includes Amendment 1 approved by CEN on 22 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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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EN 16228-7:2014+A1:2021 (E)

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EN 16228-7:2014+A1:2021 (E)**European foreword**

This document (EN 16228-7:2014+A1:2021) 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of an identical text or by endorsement, at the latest by June 2022 and conflicting national standards shall be withdrawn at the latest by June 2022.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 A1 EN 16228-7:2014 A1.

This document includes Amendment 1 approved by CEN on 22 November 2021.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

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) / Regulation(s).

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

This European Standard is divided into several parts and covers drilling and foundation equipment.

Part 1 contains requirements that are/may be common to all drilling and foundation equipment. Other parts contain additional requirements for specific machines that supplement or modify the requirements of part 1. Compliance with the clauses of part 1 together with those of a relevant specific part of this standard giving requirements for a particular machine provides one means of conforming with the essential health and safety requirements of the Directive concerned.

When a relevant specific part does not exist, part 1 can help to establish the requirements for the machine, but will not by itself provide a means of conforming to the relevant essential health and safety requirements of the Directive.

This European Standard, EN 16228, *Drilling and foundation equipment – Safety*, consists of the following parts:

- *Part 1: Common requirements*
- A1 *Part 2: Mobile drill rigs for civil and geotechnical engineering in soil or soil and rock mixture* A1
- *Part 3: Horizontal directional drilling equipment (HDD)*
- *Part 4: Foundation equipment*
- *Part 5: Diaphragm walling equipment*
- *Part 6: Jetting, grouting and injection equipment*

— *Part 7: Interchangeable auxiliary equipment*

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.

EN 16228-7:2014+A1:2021 (E)**Introduction**

This European Standard is a type C standard as stated in EN ISO 12100.

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

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for drilling and foundation equipment that have been designed and built according to the provisions of this type C standard.

1 Scope

This European Standard, together with part 1, deals with all significant hazards for interchangeable auxiliary equipment when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Clause 4).

The requirements of this part are complementary to the common requirements formulated in **EN 16228-1:2014+A1:2021**.

This document does not repeat the requirements from **EN 16228-1:2014+A1:2021**, but adds or replaces the requirements for application for interchangeable auxiliary equipment.

This document specifies the specific safety requirements for interchangeable auxiliary equipment to be used in drilling and foundation operations, connected with drilling and foundation equipment, agricultural equipment and/or earth moving machinery when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer.

Interchangeable auxiliary equipment includes pile installation and extraction equipment, impact hammers, extractors, vibrators, deep vibrators, static pile pushing/pulling devices, rotary percussion hammers, rotary drilling drives, drill mast equipment such as leaders equipped with a drill stem and gears attached to the boom of an excavator and casing oscillators/rotators.

Diaphragm wall cutting tools are dealt with in **EN 16228-5:2014+A1:2021**.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 16228-1:2014+A1:2021, *Drilling and foundation equipment — Safety — Part 1: General requirements*

EN 16228-2:2014+A1:2021, *Drilling and foundation equipment — Safety — Part 2: Mobile drill rigs for civil and geotechnical engineering in soil or soil and rock mixture*

EN 16228-3:2014+A1:2021, *Drilling and foundation equipment — Safety — Part 3: Horizontal directional drilling equipment (HDD)*

EN 16228-4:2014+A1:2021, *Drilling and foundation equipment — Safety — Part 4: Foundation equipment*

EN 16228-5:2014+A1:2021, *Drilling and foundation equipment — Safety — Part 5: Diaphragm walling equipment*

EN 16228-6:2014+A1:2021, *Drilling and foundation equipment — Safety — Part 6: Jetting, grouting and injection equipment*

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 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)*

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EN ISO 11203:2009, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions from the sound power level (ISO 11203:1995)*

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

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