

SLOVENSKI STANDARD

SIST EN 16228-4:2014/oprA1:2019

01-julij-2019

**Oprema za vrtanje in temeljenje - Varnost - 4. del: Oprema za temeljenje -
Dopolnilo A1**

Drilling and foundation equipment - Safety - Part 4: Foundation equipment

Geräte für Bohr- und Gründungsarbeiten - Sicherheit - Teil 4: Geräte für
Gründungsarbeiten

Machines de forage et de fondation - Sécurité - Partie 4 : Machines de fondation

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Ta slovenski standard je istoveten z: EN 16228-4:2014/prA1

SIST EN 16228-4:2014/oprA1:2019
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ICS:

53.100	Stroji za zemeljska dela	Earth-moving machinery
93.020	Zemeljska dela. Izkopavanja.	Earthworks. Excavations.
	Gradnja temeljev. Dela pod	Foundation construction.
	zemljo	Underground works

SIST EN 16228-4:2014/oprA1:2019

en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
EN 16228-4:2014
prA1

May 2019

ICS 93.020

English Version

Drilling and foundation equipment - Safety - Part 4: Foundation equipment

Machines de forage et de fondation - Sécurité - Partie 4
: Machines de fondation

Geräte für Bohr- und Gründungsarbeiten - Sicherheit -
Teil 4: Geräte für Gründungsarbeiten

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

This draft amendment A1, if approved, will modify the European Standard EN 16228-4:2014. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN 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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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

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

Contents	Page
European foreword.....	3
1 Modification to the whole text.....	4
2 Modification to Clause 2 "Addition of Normative Reference"	4
3 Modification to Clause 4 "List of additional significant hazards"	4
4 Modification to Subclause 5.2 "Rigid body stability"	4
5 Addition of a new Subclause 5.4 " Operating positions "	5
6 Modification to Subclause 5.5 "Moving parts involved in the process"	5
7 Addition of a new Subclause 5.7 "Auxiliary equipment for piling rig"	6
8 Modification of Clause 6 "Verification of the safety requirements and/or protective measures"	6
9 Modification to Clause 7 "Information for use – operator's manual"	6
10 Modification to Subclause A.3 "Rotary piling rig"	6

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European foreword

This document (EN 16228-4:2014/prA1:2019) has been prepared by Technical Committee CEN/TC 2014 “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 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 EN 16228-4:2014.

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EN 16228-4:2014/prA1:2019 (E)**1 Modification to the whole text**

In the entire document, for all instances found:

Replace "EN 16228-1:2014" with "EN 16228-1:2014+prA1:2019".

Replace "EN 16228-2:2014" with "EN 16228-2:2014+prA1:2019".

Replace "EN 16228-4:2014" with "EN 16228-4:2014+prA1:2019".

2 Modification to Clause 2 "Addition of Normative Reference"

Add the following references to the end of Clause 2:

"ISO 12117-2:2008, *Earth-moving machinery – Laboratory tests and performance requirements for protective structures of excavators – Part 2: Roll-over protective structures (ROPS) for excavators of over 6 t*".

3 Modification to Clause 4 "List of additional significant hazards"

Replace Table 1 with the following:

Table 1 — List of additional significant hazards and associated requirements

No.	Hazard	Relevant clause(s) in this standard
1	Mechanical hazards and events	
1.1	Overturning	5.2, 5.3, 5.4, 5.6, 6, 7
1.2	Inadequacy of mechanical strength	5.3
2	Elementary forms of mechanical hazards	
2.1	Drawing-in/trapping from rotating parts	5.5, 7
3	Combination of hazards	5.3, 5.7
4	Hazards generated by noise, resulting in:	
4.1	Hearing losses and physiological disorders	Annex A
4.2	Accidents due to interference with speech communication and warning signals	Annex A

4 Modification to Subclause 5.2 "Rigid body stability"

Delete the fourth paragraph "The manufacturer shall... any case."

In the sixth paragraph, first sentence, replace the text "The manufacturer may provide.... based on" with "Based on" and add after "fulfilled" add the text ", stability class SC is applicable:"

For list item a), replace "This shall also be shown in the case, if supports (those not causing rigid body movement) become unloaded and thus cause maximum forces at other supports." with "There shall not be unintended displacements or risks of instability if supports (those not causing rigid body movement) become unloaded and thus cause maximum forces at other supports. See EN 16228-1:2014+prA1:2019, 5.2.3.6 and Figure 2;"

5 Addition of a new Subclause 5.4 " Operating positions "

Under current subclause 5.3, add the following new subclause and renumber the subclauses that come after:

"5.4 Operating positions

EN 16228-1:2014+prA1:2019, 5.14.1 applies with the following change:

In case a roll-over protective structure (ROPS) is installed on machines having a mass less than or equal to 50 t, it shall comply with ISO 12117-2:2008."

6 Modification to Subclause 5.5 "Moving parts involved in the process"

Replace current text with the following:

"5.5.1 General

EN 16228-1:2014+prA1:2019, 5.23.2 does not apply. The following requirements apply.

All rotary piling rigs shall be equipped with either protective devices complying with EN 16228-1:2014+prA1:2019, 5.23.2.2.3 or with guards fulfilling the following requirements:

- the bottom edge of the guard shall be no more than 750 mm above ground level;
- the upper level of the guard shall not be less than 1 600 mm from ground level;
- moveable guards shall have a mechanical locking device to secure the guard in position.

The design of the guard shall ensure sufficient visibility on the working area.

5.5.2 Exemptions

Rotary piling rigs equipped with at least one of the following devices or components are exempted from the requirement of guards as in 5.5.1:

- a kelly bar;
- a soil mixing attachment;
- a casing oscillator (e.g. EN 16228-1:2014+prA1:2019, A.2.48);
- rotating auger cleaners (e.g. EN 16228-1:2014+prA1:2019, A.2.47);

NOTE 1 Rotating auger cleaners are dealt with in EN 16228-1:2014+prA1:2019, 5.24.

- guides at the lower end of the leader to guide the auger or drill stem, having the same dimensions as indicated in 5.5.1 for the guards;

NOTE 2 Guides can be opened to allow the drilling head to move to ground level.

- casings or rotating drill stem, having a rotation speed of no greater than 30 rpm.

NOTE 3 Casings usually have a plane surface and are moving with a low rotation speed.

5.5.3 Conversion kit for manual operated rod handling

In case the rotary piling rig is converted to make technologies for which a manual operated rod handling is foreseen (e.g. Micropiling, Jet grouting, Segmental CFA), EN 16228-1:2014+prA1:2019, 5.5 and 5.6 shall apply."

EN 16228-4:2014/prA1:2019 (E)

7 Addition of a new Subclause 5.7 "Auxiliary equipment for piling rig"

Add the following new text:

"5.7 Auxiliary equipment for piling rig"

Piling leaders used with rope driven free-fall drop hammers shall be provided with a mechanical stop for supporting the hammer at the lowest position.

Additionally, should the piling process involve the personnel entering the danger zone immediately below the hammer, then a higher support shall be provided."

8 Modification of Clause 6 "Verification of the safety requirements and/or protective measures"

Modify row 5.5 and add new rows to Table 3 as follows:

5.4	Operating positions	x		x			1
5.5	Moving parts involved in the process	x		x			
5.6	Inclination of the carrier	x			x		1
5.7	Auxiliary equipment for piling rig	x		x			

9 Modification to Clause 7 "Information for use – operator's manual"

Replace last three indents with the following:

"

- allowed extraction pulling force not to be exceeded;
- capacity Table NC or SC;
- instruction that the capacity table for class SC can only be used if the conditions as specified in 5.2 a) are met;"

And replace the final paragraph with the following:

- "— for piling rig, that the noise emission values of the piling rig were determined without pile installation equipment."

10 Modification to Subclause A.3 "Rotary piling rig"

Replace "as described in Annex A of EN 16228-1:2014." with "as described in EN 16228-1:2014+prA1:2019, Annex B."