SLOVENSKI STANDARD
SIST EN 16228-5:2014/oprA1:2019

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Oprema za vrtanje in temeljenje - Varnost - 5. del: Oprema za izdelavo membranskih sten - Dopolnilo A1

Drilling and foundation equipment - Safety - Part 5: Diaphragm walling equipment

Geräte für Bohr- und Gründungsarbeiten - Sicherheit - Teil 5: Geräte für Schlitzwandarbeiten

Machines de forage et de fondation - Sécurité - Partie 5 : Machines pour parois moulées

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93.020	Zemeljska dela. Izkopavanja. Gradnja temeljev. Dela pod zemljo	Earthworks. Excavations. Foundation construction. Underground works

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EUROPEAN STANDARD

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English Version

Drilling and foundation equipment - Safety - Part 5: Diaphragm walling equipment

Machines de forage et de fondation - Sécurité - Partie 5 : Machines pour parois moulées

Geräte für Bohr- und Gründungsarbeiten - Sicherheit - Teil 5: Geräte für Schlitzwandarbeiten

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 16228-5:2014. 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.

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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
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 16228-5:2014/prA1:2019) 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 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 16228-5:2014.

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 16228-4:2014” *with* “EN 16228-4:2014+prA1:2019”.

Replace “EN 16228-5:2014” *with* “EN 16228-5:2014+prA1:2019”.

2 Modification to Clause 2, Normative References

Delete the following references

"EN 474-12:2006+A1:2008, *Earth-moving machinery - Safety - Part 12: Requirements for cable excavators*"

Add the following references

"EN 16228-4, *Drilling and foundation equipment - Safety - Part 4: Foundation equipment*

prEN 474-12:2017, *Earth-moving machinery - Safety - Part 12: Requirements for cable excavators*"

3 Modification to Definition 3.3 “diaphragm walling rig”

In Note 2 to Entry, second indent, delete “or EN 13001-1”.

In first indent, add, after “complete machine”,

"satisfying this part of EN 16228”.

In second indent, add, after “carrier machine”,

"able to withstand dynamic loads as specified in 5.2”.

In third indent of Note 2 to entry, add, after “EN 474 12”,

“satisfy this requirement.

NOTE 3 to entry For mobile cranes, compliance with EN 13000 alone is not sufficient to satisfy this requirement.”

In last indent, add, before “hydraulic excavator”,

“foundation equipment, “.

In last indent, replace

“complying with”

with

“Carrier machines designed according to EN 16228 4 or.

4 Modification to Clause 4 “List of additional significant hazards”

Replace Table 1 by 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	Inadequacy of mechanical strength	5.2.2, 5.2.3
1.2	Overturning	5.2.3, 5.3, 5.4.4, 5.8, 5.9, 6, 7.1
1.3	From inadequate design of pulleys, drums	5.3
1.4	From inadequate selection of ropes	5.3
1.5	Ejection of teeth from milling cutters	7.1
1.6	Impact through excessive oscillation of tools when tramming	7.1
1.7	Uncontrolled release of lifted load	5.4.4
2	Elementary forms of mechanical hazards	
2.1	Crushing/shearing between jaws of grabs	5.5, 7.1, 7.2
2.2	Drawing–in/trapping from teeth of milling cutters	5.4.2, 5.6, 7.1, 7.2
2.3	Crushing/entanglement/drawing-in/ abrasion when replacing ropes	5.4.3, 5.7, 7.1, 7.2
3	Fall of persons during access to (or at/from) the work position (including changing ropes)	7.1, 7.2
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

5 Modification to Subclause 5.1 "General"

In third paragraph, first sentence, delete “and milling cutters”.

6 Modification to Subclause 5.4.2 “Control of the diaphragm walling rig equipped with cutter”

After the last paragraph, add the following text:

“Freefall mode shall be prevented on the winches of the diaphragm walling rigs fitted with diaphragm wall cutter as defined in 3.6 (e.g. by a key-operated control).”

7 Modification to Subclause 5.4.3 “Control of winches for suspending grabs or cutters when changing ropes”

Replace the second paragraph with the following:

“

NOTE 1 A remote control satisfies this requirement.

The mode for changing ropes shall be activated by a lockable mode selector in case there is a need for persons to be present in the danger zone of the winch.

In this mode, the maximum rotation speed shall be limited to 2 rpm.

It shall not be possible to operate more than one winch at the same time. This control shall be of hold-to-run type.

From the control station for this mode, it shall be possible to have a view to the winch and the person guiding the rope for handling and communication.

Controls (for use in this mode) shall either be located close to the winches involved and allow full visibility of the winches or on a remote device that will allow only operation of the winches. Enabling of a remote control shall be done at the operator station and may be combined with the mode selector function.

It shall not be possible for the normal winch controls at the operator station to operate the winches whilst the mode selector is activated.

NOTE 2 The control station is defined in EN 474-12:2006, 5.10.2."

Add the following:

5.4.4 Free fall function

5.4.4.1 General

In diaphragm walling rigs fitted with diaphragm wall grab, the free fall function can be with automatic or manual deactivation.

NOTE This selection can be realized by a separate control or integrated in the key enabled selector of the free fall function.

5.4.4.2 Free fall function with automatic deactivation

Activation of the free fall function shall only be possible by actuation of two independent controls simultaneously (e.g. brake pedals and additional control).

The starting of the free-fall shall be done by a separate control (e.g. by releasing the brake pedals).

Free fall function is deactivated automatically moving the control for winch to lifting position.

5.4.4.3 Free fall function with manual deactivation

First activation of the free fall function shall only be possible by actuation of two independent controls simultaneously (e.g. brake pedals and additional control).

The first starting of the free-fall shall be done by a separate control (e.g. by releasing the brake pedals).

Re-starting of free-fall after lifting can be done by the following options:

— when returning the control for lifting to neutral position;

— by actuation of a control (no need for actuation of two independent controls simultaneously) by the operator, after returning the control for lifting to neutral position.

NOTE Starting of free-fall by actuation by the operator can be done e.g. by releasing the brake pedal.

Free-fall function shall be designed to be manually or automatically deactivated.

The free-fall function with manual deactivation shall be clearly indicated at the operator's station."

8 Addition of a new Subclause 5.9

Add the following: "

5.9 Operating position(s)

For the tramming, travelling and operating of drilling and foundation equipment, where there is a risk of tipping-over, one of the following measures shall be taken:

— fulfil the requirements according to EN 16228-1:2014+prA1:201X, 5.14.1;

— if the carrier machine complies with EN 16228-4 fulfilling the requirements according to EN 16228-4:2014+prA1:2019, 5.4;

— if the carrier machine complies with EN 474-5 fulfilling the requirements according to EN 474-5:2006+A3:2013, 5.3.2.2.3;

— if the carrier machine complies with EN 474-12 fulfilling the requirements according to EN 474-12:2006+prA1:2008, 5.3.2;

— if the carrier machine complies with EN 13000 fulfilling the requirements according to EN 13000;

— if the carrier machine complies with EN 13001 fulfilling the requirements according to EN 13001.

For the tramming, travelling and operating of drilling and foundation equipment, where there is a risk of roll-over, one of the following measures shall be taken:

— fulfil the requirements according to EN 16228-1:2014+prA1:201X, 5.14.1;

— if the carrier machine complies with EN 16228-4 fulfilling the requirements according to EN 16228-4, 5.4;

— if the carrier machine complies with EN 474-5 fulfilling the requirements according to EN 474-5:2006+A3:2013, 5.3.2.2.3;

— if the carrier machine complies with EN 474-12 fulfilling the requirements according to EN 474-12:2006+prA1:2008, 5.3.2;

— if the carrier machine complies with EN 13000 fulfilling the requirements according to EN 13000;

— if the carrier machine complies with EN 13001 fulfilling the requirements according to EN 13001.