SLOVENSKI STANDARD
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Oprema za vrtanje in temeljenje - Varnost - 3. del: Oprema za temeljenje (ISO/DIS 20770-3:2025)

Drilling and foundation equipment - Safety - Part 3: Foundation equipment (ISO/DIS 20770-3:2025)

Geräte für Bohr- und Gründungsarbeiten - Sicherheit - Teil 4: Geräte für Gründungsarbeiten (ISO/DIS 20770-3:2025)

Machines de forage et de fondation - Sécurité - Partie 3: Machines de fondation (ISO/DIS 20770-3:2025)

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

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DRAFT International Standard

ISO/DIS 20770-3

Drilling and foundation equipment — Safety —

Part 3: Foundation equipment

Machines de forage et de fondation — Sécurité —

Partie 3: Machines de fondation

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 195, *Building construction machinery and equipment*, Subcommittee SC 3, *Drilling and foundation machinery and equipment*.

A list of all parts in the ISO 20770 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

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

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

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

Drilling and foundation equipment — Safety —

Part 3: Foundation equipment

1 Scope

This document, together with ISO 20770-1:____, deals with all significant hazards for foundation 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 Annex B).

The requirements of this part are complementary to the common requirements formulated in ISO 20770-1:____.

This document does not repeat the requirements from ISO 20770-1:____ but adds or replaces the requirements for application for foundation equipment.

In this document the general term “foundation equipment” covers several different types of machines used for installation and/or extracting by drilling (machines with a rotary torque greater than 35 kNm), driving, piling, vibrating, pushing, pulling or a combination of techniques, or any other way, of:

— longitudinal foundation elements, such as concrete piles, steel beams, tubes and sheet piles;

— injection elements as tubes and hoses;

— casings for cast in situ;

and used for:

— soil improvement by vibrating and soil mixing techniques;

— vertical drainage.

NOTE Some foundation equipment may have an additional rotary head with a torque less than 35 kNm for pre-drilling applications; this equipment is covered by this standard.

Machines with one or more of the following characteristics are not covered by this standard, but are covered by ISO 20770-2:____, including:

— machines that have a main rotary head torque of less than 35 kNm;

— machines that have multi-directional drilling capability;

— machines require additional measures during the installation/extraction process (for example, adding or removing such as rods, digging tools, drilling tools).

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 474-5:2022, *Earth-moving machinery — Safety — Part 5: Requirements for hydraulic excavators*

EN 474-12:2022, *Earth-moving machinery — Safety — Part 12: Requirements for cable excavators*

EN 13000:2010+A1:2014, *Cranes — Mobile cranes*

ISO 11886, ____,[1], *Drilling and foundation machinery — Soil or soil and rock mixture drilling and foundation machines — Commercial specifications*

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

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*

ISO 20770-1, ____,[2], *Drilling and foundation equipment — Safety — Part 1: Common requirements*

ISO 20770-2, ____,[3], *Drilling and foundation equipment — Safety — Part 2: Mobile drill rigs for civil and geotechnical engineering in soil or soil and rock mixture*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12100:2010, ISO 11886:____ and the following apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
foundation equipment
equipment fitted to a carrier machine in order to perform piling and foundation operations

3.2
impact piling rig
carrier machine fitted with a mast or leader on which a hammer is mounted

Note 1 to entry: Hammers can be powered or free-fall drop weights.

3.3
rotary piling rig
carrier machine fitted with a mast or leader to which a rotary drive is attached

Note 1 to entry: Drilling or digging tools such as an auger or bucket are connected to the rotary drive by a coupling. Couplings between the rotary drive and tools and between sections of tools are non-threaded.

3.4
vibration piling rig
carrier machine fitted with a mast or leader, on which a vibrating tool is attached

Note 1 to entry: A range of vibrating tools are available for purposes such as pile driving, sheet piling or ground improvement.

3.5
ground reference plane
GRP
plane on which the machine is placed for measurements: in the case for base machine, a hard level surface; in the case of equipment and attachments, either a hard, level surface or compacted earth

[SOURCE: ISO 6746-1:2003, 3.2 modified – Removed Note 1 to entry]

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1) At the stage of preparation : ISO/DIS 11886:2023

2) Currently, at the stage of CD

3) Currently, at the stage of CD