



DPC: 25/30475175 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

Date: 13 February 2025

Origin: European

Latest date for receipt of comments: 08 April 2025

Project No. 2023/01264

Responsible committee: B/513/-/10 Drilling and piling machines - Safety

Interested committees:

Title: Draft BS EN ISO 20770-3 Drilling and foundation equipment - Safety. Part 3: Foundation equipment.

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD. THIS DRAFT IS NOT CURRENT BEYOND 08 April 2025

This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

No copying is allowed, in any form, without prior written permission from BSI except as permitted under the Copyright, Designs and Patent Act 1988 or for circulation within a nominating organization for briefing purposes. Electronic circulation is limited to dissemination by e-mail within such an organization by committee members.

Further copies of this draft may be purchased from BSI Shop <http://shop.bsigroup.com> or from BSI Customer Services, Tel: +44(0) 20 8996 9001 or email cservices@bsigroup.com. British, International and foreign standards are also available from BSI Customer Services.

Information on the co-operating organizations represented on the committees referenced above may be obtained from <https://standardsdevelopment.bsigroup.com/>.

Responsible Committee Secretary: Ms Charlotte Hennessey (BSI)

Direct tel: 020 8996 6436

E-mail: charlotte.hennessey@bsigroup.com

Full document details: 25/30475175 DC

Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
------------------	------------------------

1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



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

ICS: 53.100

ISO/TC 195/SC 3

Secretariat: **AFNOR**

Voting begins on:

2025-02-13

Voting terminates on:

2025-05-08

This document is circulated as received from the committee secretariat.

ISO/CEN PARALLEL PROCESSING

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENTS AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

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.

Reference number
ISO/DIS 20770-3:2025(en)

Full document details: 25/30475175 DC

© ISO 2025



Documents

Document Sharing Hub



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Safety requirements and/or protective/risk reduction measures	3
4.1 General	3
4.1.1 Foundation equipment	3
4.1.2 Carrier machine	3
4.2 Rigid body stability	3
4.3 Winches and pulleys	4
4.4 Operating positions	4
4.5 Moving parts involved in the process	4
4.5.1 General	4
4.5.2 Exemptions	4
4.6 Inclination of the carrier	4
4.7 Auxiliary equipment for piling rig	5
4.8 Noise	5
5 Verification of the safety requirements and/or protective/risk reduction measures	5
6 Information for use – operator's manual	6
Annex A (normative) Noise test code	7
Annex B (informative) List of additional significant hazards	8
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered	9
Annex ZB (informative) Relationship between this European Standard and the essential requirements of Regulation (EU) 2023/1230 aimed to be covered	14
Bibliography	20

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO [had/had not] received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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*