Geotechnical investigation and testing - Field testing - Part 14: Borehole dynamic probing (ISO 22476-14:2020)



### EESTI STANDARDI EESSÕNA

### NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 22476-14:2020 sisaldab Euroopa standardi EN ISO 22476-14:2020 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 22476-14:2020 consists of the English text of the European standard EN ISO 22476-14:2020.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 04.03.2020.	Date of Availability of the European standard is 04.03.2020.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile <u>standardiosakond@evs.ee</u>.

### ICS 93.020

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega: Koduleht <u>www.evs.ee</u>; telefon 605 5050; e-post <u>info@evs.ee</u>

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

# EUROPEAN STANDARD

### EN ISO 22476-14

# NORME EUROPÉENNE

**EUROPÄISCHE NORM** 

March 2020

ICS 93.020

### **English Version**

# Geotechnical investigation and testing - Field testing - Part 14: Borehole dynamic probing (ISO 22476-14:2020)

Reconnaissance et essais géotechniques - Essais en place - Partie 14: Sondage dynamique au carrottier (ISO 22476-14:2020)

Geotechnische Erkundung und Untersuchung -Felduntersuchungen - Teil 14: Bohrlochrammsondierung (ISO 22476-14:2020)

This European Standard was approved by CEN on 1 March 2020.

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.

This European Standard exists 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.

CEN members are the national standards bodies of 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 United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

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

## European foreword

This document (EN ISO 22476-14:2020) has been prepared by Technical Committee ISO/TC 182 "Geotechnics" in collaboration with Technical Committee CEN/TC 341 "Geotechnical Investigation and Testing" the secretariat of which is held by BSI.

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 September 2020, and conflicting national standards shall be withdrawn at the latest by September 2020.

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.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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.

### **Endorsement notice**

The text of ISO 22476-14:2020 has been approved by CEN as EN ISO 22476-14:2020 without any modification.

Coi	itents	<b>;</b>	Page
Fore	word		iv
1	Scope	2	1
2	Norm	ative references	1
3	Term	s and definitions	1
4	Equip	nent	2
5		rocedure	6
	5.1	General Took are a service as a	
	5.2 5.3	Test preparation Equipment checks and calibration	
	5.4	Probing procedure	
	5.5	Field records	7
6		evaluation and result mapping	
7		Qualitative evaluation and derivation of geotechnical parameters	
	7.1 7.2	General Qualitative evaluation	
	7.2	Derived values	
Ann	ex A (no	rmative) Header sheet with measuring record for borehole dynamic probing	10
	ex B (inf and r	ormative) Examples of relations for considering the effect of ground water elations between the results from probing with different probes as well as the	
D:1.1:		ation of geotechnical parametersy	
@ ICC	2020 43		•••

### **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 <a href="www.iso.org/directives">www.iso.org/directives</a>).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see <a href="https://www.iso.org/patents">www.iso.org/patents</a>).

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 <a href="https://www.iso.org/iso/foreword.html">www.iso.org/iso/foreword.html</a>.

This document was prepared by Technical Committee ISO/TC 182, Geotechnics.

A list of all parts in the ISO 22476 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 <a href="https://www.iso.org/members.html">www.iso.org/members.html</a>.

# Geotechnical investigation and testing — Field testing —

### Part 14:

## **Borehole dynamic probing**

### 1 Scope

This document specifies the equipment requirements, execution of and reporting on borehole dynamic probing.

NOTE This document fulfills the requirements for borehole dynamic probing as part of the geotechnical investigation and testing according to EN 1997-1 and EN 1997-2.

The document specifies technical requirements in respect to equipment and implementation, in order to extensively prevent incorrect appraisals of the subsoil conditions and to limit scatter in the probing results due to equipment and implementation.

### 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 10025-2, Hot rolled products of structural steels — Part 2: Technical delivery conditions for non-alloy structural steels

ISO 14688-1, Geotechnical investigation and testing — Identification and classification of soil — Part 1: Identification and description

ISO 22475-1, Geotechnical investigation and testing — Sampling methods and groundwater measurements — Part 1: Technical principles for execution

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

- ISO Online browsing platform: available at <a href="http://www.iso.org/obp">http://www.iso.org/obp</a>
- IEC Electropedia: available at <a href="http://www.electropedia.org/">http://www.electropedia.org/</a>

### 3.1

#### probing

indirect subsoil exploration method in soils normally by driving a cone vertically while measuring the *penetration resistance* (3.4) to derive geotechnical parameters

#### 3.2

#### borehole dynamic probing

*probing* (3.1) in the borehole, which is carried out by driving by impact from the borehole base over a defined penetration depth

Note 1 to entry: Here the impact device is directly above the probe in the borehole.