SLOVENSKI STANDARD

SIST EN ISO 22477-1:2019

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Geotehnično preiskovanje in preskušanje - Preskušanje geotehničnih konstrukcij - 1. del: Preskušanje nosilnih pilotov s statično osno stiskalno obremenitvijo (ISO 22477-1:2018)

Geotechnical investigation and testing - Testing of geotechnical structures - Part 1: Testing of piles: static compression load testing (ISO 22477-1:2018)

Geotechnische Erkundung und Untersuchung - Prüfung von geotechnischen Bauwerken und Bauwerksteilen - Teil 1: Pfahlprobebelastungen durch statische axiale Druckbelastungen (ISO 22477-1:2018)

Reconnaissance et essais géotechniques - Essais de structures géotechniques - Partie 1: Essais de pieux: essai de chargement statique en compression (ISO 22477-1:2018)

Ta slovenski standard je istoveten z: **EN ISO 22477-1:2018**

ICS:

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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Geotechnical investigation and testing - Testing of geotechnical structures - Part 1: Testing of piles: static compression load testing (ISO 22477-1:2018)

Reconnaissance et essais géotechniques - Essais de structures géotechniques - Partie 1: Essais de pieux: essai de chargement statique en compression (ISO 22477-1:2018)

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Contents

Page

European foreword

This document (EN ISO 22477-1:2018) 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of an identical text or by endorsement, at the latest by June 2019, and conflicting national standards shall be withdrawn at the latest by June 2019.

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.

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Geotechnical investigation and testing — Testing of geotechnical structures —

Part 1: Testing of piles: static compression load testing

Reconnaissance et essais géotechniques — Essais des structures géotechniques —

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Contents

Page

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).

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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 the European Committee for Standardization (CEN) Technical Commitee CEN/TC 341, *Geotechnical Investigation and Testing*, in collaboration with ISO Technical Committee ISO/TC 182, *Geotechnics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 22477 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.

Geotechnical investigation and testing — Testing of geotechnical structures —

Part 1:
Testing of piles: static compression load testing

1 Scope

This document establishes the specifications for the execution of static pile load tests in which a single pile is subjected to an axial static load in compression in order to define its load-displacement behaviour.

This document is applicable to vertical piles as well as raking piles.

All types of piles are covered by this document. The tests considered in this document are limited to maintained load tests. Pile load tests with constant penetration rate and cyclic load tests are not covered by this document.

NOTE This document is intended to be used in conjunction with EN 1997-1. EN 1997-1 provides numerical values of partial factors for limit states and of correlation factors to derive characteristic values from static pile load tests to be taken into account in design.

This document provides specifications for the execution of static axial pile load tests:

a) checking that a pile will behave as designed;

b) measuring the resistance of a pile.

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.

ISO 7500-1, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*

EN 1990, *Eurocode 0: Basis of structural design*

EN 1997-1, *Eurocode 7: Geotechnical design — Part 1: General rules*

EN 1997-2, *Eurocode 7: Geotechnical design — Part 2: Ground investigation and testing*

3 Terms, definitions and symbols

For the purposes of this document, the terms and definitions given in EN 1990, EN 1997-1, EN 1997-2 and the following apply.

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

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

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

3.1 Terms and definitions

3.1.1
pile load
F_c
load applied to the head of the pile during the test

Note 1 to entry: For tests with embedded jack, the load is applied at another level, see Annex B.

3.1.2
load increment
ΔF
increment of load added or removed during the test

3.1.3
pile diameter
equivalent pile diameter
D
diameter of the pile

Note 1 to entry: For a noncircular pile with cross section A, the equivalent pile diameter equals $\sqrt{\frac{4A}{\pi}}$.

3.1.4
working pile
pile for the foundation of a structure

3.1.5
test pile
pile to which loads are applied to determine the resistance-displacement characteristics of the pile and the surrounding ground

3.1.6
measured compressive resistance
$R_{c,m}$
measured value of the compressive resistance at the ultimate limit state, in one or several *pile load* (3.1.1) tests

Note 1 to entry: The recommended failure criterion is defined in EN 1997-1.

3.1.7
creep rate
α
ratio of the increase in pile head displacement and the decimal logarithm of time during a specified time interval

3.2 Symbols

A	pile cross section
D_b	equivalent pile base diameter
$F_{c,cr}$	critical creep load in compression
$F_{c,cr,m}$	measured value of $F_{c,cr}$ in one or several pile load tests
$F_{c,k}$	characteristic axial compression load
F_p	predefined maximum load applied during the test