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Geotechnical investigation and testing - Testing of geotechnical structures - Part 2: Testing of piles: static tension load testing (ISO 22477-2:2023)

Táto norma obsahuje anglickú verziu európskej normy.

This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 10/23

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN ISO 22477-2**

August 2023

ICS 93.020

English Version

**Geotechnical investigation and testing - Testing of  
geotechnical structures - Part 2: Testing of piles: static  
tension load testing (ISO 22477-2:2023)**

Reconnaissance et essais géotechniques - Essais des  
structures géotechniques - Partie 2: Essai de pieux:  
essais de chargement statique en traction (ISO 22477-  
2:2023)

Geotechnische Erkundung und Untersuchung - Prüfung  
von geotechnischen Bauwerken und Bauwerksteilen -  
Teil 2: Statisch axiale Pfahlprobelastung auf Zug (ISO  
22477-2:2023)

This European Standard was approved by CEN on 1 July 2023.

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

**EN ISO 22477-2:2023 (E)**

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## **European foreword**

This document (EN ISO 22477-2:2023) 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of an identical text or by endorsement, at the latest by February 2024, and conflicting national standards shall be withdrawn at the latest by February 2024.

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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## **Endorsement notice**

The text of ISO 22477-2:2023 has been approved by CEN as EN ISO 22477-2:2023 without any modification.

# INTERNATIONAL STANDARD

**ISO**  
**22477-2**

First edition  
2023-07

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## **Geotechnical investigation and testing — Testing of geotechnical structures —**

### **Part 2: Testing of piles: Static tension load testing**

*Reconnaissance et essais géotechniques — Essais des structures  
géotechniques —*

*Partie 2: Essai de pieux: essais de chargement statique en traction*



Reference number  
ISO 22477-2:2023(E)

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## ISO 22477-2:2023(E)

### 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 document 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](http://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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 182, *Geotechnics*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 341, *Geotechnical Investigation and Testing*, 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](http://www.iso.org/members.html).



# Geotechnical investigation and testing — Testing of geotechnical structures —

## Part 2: Testing of piles: Static tension 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 tension 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. Cyclic load tests are not covered by this document.

**NOTE** ISO 22477-2 is intended to be used in conjunction with EN 1997-1. 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 are provided in EN 1997-1.

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

- a) checking that a pile behaves 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*

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