Geotechnical investigation and testing - Field testing - Part 12: Mechanical cone penetration test (CPTM)

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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 22476-12:2009 sisaldab Euroopa standardi EN ISO 22476-12:2009 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 22476-12:2009 consists of the English text of the European standard EN ISO 22476-12:2009.
Standard on kinnitatud Eesti Standardikeskuse 30.11.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 30.11.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 15.05.2009.	Date of Availability of the European standard text 15.05.2009.
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English Version

Geotechnical investigation and testing - Field testing - Part 12: Mechanical cone penetration test (CPTM) (ISO 22476-12:2009)

Reconnaissance et essais géotechniques - Essais en place - Partie 12: Essai de pénétration statique au cône à pointe mécanique (ISO 22476-12:2009)

Geotechnische Erkundung und Untersuchung - Felduntersuchungen - Teil 12: Drucksondierungen mit mechanischen Messwertaufnehmern (ISO 22476-12:2009)

This European Standard was approved by CEN on 16 April 2009.

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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 Management Centre has the same status as the official versions.

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Foreword

This document (EN ISO 22476-12:2009) has been prepared by Technical Committee CEN/TC 341 “Geotechnical Investigation and Testing” the secretariat of which is held by ELOT, in collaboration with Technical Committee ISO/TC 182 "Geotechnics".

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of an identical text or by endorsement, at the latest by November 2009, and conflicting national standards shall be withdrawn at the latest by November 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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Introduction

The mechanical cone penetration test (CPTM) consists of pushing a cone penetrometer, by means of a series of push rods, into the soil at a constant rate of penetration. During penetration, measurements of cone penetration resistance, total penetration resistance and/or sleeve friction can be recorded. The test results can be used for interpretation of stratification, classification of soil type and evaluation of geotechnical parameters.

Cone resistance is the term used in practice; however, *cone penetration resistance* is a more accurate description of the process, and is the term used in this part of ISO 22476.

Geotechnical investigation and testing — Field testing —

Part 12:
Mechanical cone penetration test (CPTM)

1 Scope

This part of ISO 22476 specifies a mechanical cone penetration test (CPTM), including equipment requirements, execution and reporting. The results from such geotechnical testing are especially suited to the qualitative and/or quantitative determination of a soil profile — together with direct investigations — or as a relative comparison with other *in situ* tests.

The results from a cone penetration test can in principle be used to evaluate stratification, soil type, and geotechnical parameters such as soil density, shear-strength parameters and deformation and consolidation characteristics.

This part of ISO 22476 specifies the following features:

— type of cone penetration test (see Table 1);

— application class (see Table 2);

— penetration length or penetration depth;

— elevation of the ground surface or underwater ground surface at the location of the cone penetration test with reference to a datum;

— location of the cone penetration test relative to a reproducible fixed location reference point.

NOTE The planning and evaluation of an investigation programme and the application of its results to design are covered by EN 1997-1 and EN 1997-2.

2 Normative references

The following referenced documents are indispensable for the application 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 8503 (all parts), *Preparation of steel substrates before application of paints and related products — Surface roughness characteristics of blast-cleaned steel substrates*

ISO 10012:2003, *Measurement management systems — Requirements for measurement processes and measuring equipment*