

Geotechnical investigation and testing - Field testing -  
Part 11: Flat dilatometer test (ISO 22476-11:2017)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 22476-11:2017 sisaldab Euroopa standardi EN 22476-11:2017 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 22476-11:2017 consists of the English text of the European standard EN 22476-11:2017.
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 17.05.2017.	Date of Availability of the European standard is 17.05.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

Geotechnical investigation and testing - Field testing - Part  
11: Flat dilatometer test (ISO 22476-11:2017)

Reconnaissance et essais géotechniques - Essais en  
place - Partie 11: Essai au dilatomètre plat (ISO 22476-  
11:2017)

Geotechnische Erkundung und Untersuchung -  
Felduntersuchungen - Teil 11:  
Flachdilatometerversuch (ISO 22476-11:2017)

This European Standard was approved by CEN on 20 March 2017.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (EN ISO 22476-11:2017) 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 AFNOR.

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of an identical text or by endorsement, at the latest by November 2017 and conflicting national standards shall be withdrawn at the latest by November 2017.

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.

This document supersedes CEN ISO/TS 22476-11:2005.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 22476-11:2017 has been approved by CEN as EN ISO 22476-11:2017 without any modification.

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## 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](http://www.iso.org/directives)).

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For an explanation on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

ISO 22476-11 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 341, *Geotechnical investigating and testing*, in collaboration with ISO Technical Committee TC 182, *Geotechniques*, in accordance with the agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 22476-11 cancels and replaces ISO/TS 22476-11:2005, which has been technically revised.

A list of all parts in the ISO 22476 series can be found on the ISO website.

# Geotechnical investigation and testing — Field testing —

## Part 11: Flat dilatometer test

### 1 Scope

This document establishes guidelines for the equipment requirements, execution of and reporting on flat dilatometer tests.

**NOTE** This document fulfils the requirements for flat dilatometer tests as part of the geotechnical investigation and testing according to EN 1997-1 and EN 1997-2.

The basic flat dilatometer test consists of inserting vertically into the soil a blade-shaped steel probe with a thin expandable circular steel membrane mounted flush on one face and determining two pressures at selected depth intervals: the contact pressure exerted by the soil against the membrane when the membrane is flush with the blade and, subsequently, the pressure exerted when the central displacement of the membrane reaches 1,10 mm.

Results of flat dilatometer tests are used mostly to obtain information on soil stratigraphy, *in situ* state of stress, deformation properties and shear strength. It is also used to detect slip surfaces in clays. The flat dilatometer test is most applicable to clays, silts and sands, where particles are small compared to the size of the membrane.

### 2 Normative references

There are no normative references in this document.

### 3 Terms, definitions and symbols

#### 3.1 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:

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

##### 3.1.1

##### **dilatometer blade**

dilatometer probe

blade-shaped steel probe that is inserted into the soil to perform a flat dilatometer test

##### 3.1.2

##### **membrane**

thin circular steel diaphragm that is mounted flush on one face of the blade and is expanded by applying a gas pressure at its back