
French standard

NF EN ISO 22476-4

1st May 2015

Classification index: **P 94-521-4**

ICS: 93.020

Geotechnical investigation and testing — Field testing — Part 4: Ménard pressuremeter test

F : Reconnaissance et essais géotechniques — Essais en pace —
Partie 4 : Essai au pressiomètre Ménard

D : Geotechnische Erkundung und Untersuchung — Felduntersuchungen —
Teil 4: Pressiometerversuch nach Ménard

French standard approved

by decision of the Director General of AFNOR.

Correspondence

The European standard EN ISO 22476-4:2012 has the status of French standard and reproduces in full the international standard ISO 22476-4:2012.

Summary

This document specifies the equipment requirements, execution of and reporting on the Ménard pressuremeter test.

Descriptors

Technical International Thesaurus: geotechnics, soils, field tests, pressure tests, expansion, probes, characteristics, volume measurement, calibration, test results, uncertainty.

Modifications

Corrections

Standards

Standards are designed to serve as a basis in relations between economic, scientific, technical and social partners.

By nature, application of a standard is voluntary. When stipulated in a contract, it is binding on the parties. Legislation may require all or part of a standard to become compulsory.

The standard is a document defined by consensus within a standardisation body involving representatives of all stakeholders. It is submitted for public consultation prior to adoption.

The standard is regularly reviewed to assess its appropriateness over time.

Any standard is considered to be effective as from the date presented on the first page.

Understanding standards

The reader's attention is drawn to the following points:

Only the verbal form **shall** is used to express one or more requirements that shall be satisfied in order to comply with this document. Such requirements may be contained in the body of the standard or in a so-called "normative" annex. For test methods, the use of the imperative corresponds to a requirement.

Expressions involving the verbal form **should** are used to express a possibility that, while preferred, is not actually necessary in order to comply with this document. The verbal form **may** is used to express practical, but not mandatory advice or suggestions, or permission.

Furthermore, this document may provide additional information aimed at making certain elements easier to understand or use, or at clarifying how such elements are applied, but without actually defining a requirement. These elements are presented as **notes or informative annexes**.

Standardisation commission

Acting within a given field of activity, a standardisation commission features the necessary expertise for preparing French standards and defining France's positions in European and international draft standards. The commission may also prepare experimental standards and technical reports.

If you would like to provide feedback on this document, make suggested changes or take part in the document's revision, write to "norminfo@afnor.org".

National foreword to NF EN ISO 22476-4 "Ménard pressuremeter test"

For the purposes of applying this European standard in France, the provisions set out below shall apply.

It should be noted that these details are indicative and they do not conflict with the body of this European standard: none of the possibilities offered by this standard is excluded. These indications concerning the French application are classified according to the paragraphs of this European standard to which they apply.

General indication:

Procedure B, in which digital data is printed on site and recorded automatically, is recommended. The data is printed either on paper or on electronic media.

Indication concerning paragraph 5.5 "Establishment of the loading program":

Maintaining a constant pressure is recommended. However, its value can be adjusted at least twice during the test to achieve the objectives described in paragraph 5.5.

The indication of Annex C "Probe Placement", Table C.2 "Guidelines 7 for placement techniques of the pressuremeter probe":

In the use of table C.2, the following elements should be taken into account:

- In the column (DST): the placement of the slotted pipe by using jacks in mud and soft clays is permitted only if the resistance criteria of paragraph A2b are respected. Placement of the slotted tube in these soils by beating or vibration is not recommended;
- In the column (RPM): it is recommended to reserve the rotopercussion technique (with or without injection of mud) to compacted soil. It is therefore not advisable to apply it in the case of the silts and loose sands;
- When drilling walls are likely to decompress or be unstable, it is recommended to use a drilling mud of sufficient viscosity and density, based on bentonite, possibly weighted by additives.

Indication of Annex D "Determination of the pressuremeter characteristics", paragraph D.2.2 "Quality of the pressuremeter test":

To enable the determination of the pressuremeter characteristics, it is recommended to have at least 3 data points for the second reading group (pseudoelastic phase) and at least 3 data points for the third reading group (plastic phase).

Indication regarding Annex D "Determination of the pressuremetric characteristics" Paragraph D.3 "pressuremetric flow pressure":

To determine the flow pressure, it is recommended to retain the value determined by the first graphical method, noted P_{fMi} .