

ICS 93.020

English version

**Geotechnical investigation and testing - Field testing - Part 10:
Weight sounding test (ISO 22476-10:2005)**

Reconnaissance et essais géotechniques - Essais en place
- Partie 10: Essai de sondage par poids (ISO 22476-
10:2005)

Geotechnische Erkundung und Untersuchung -
Felduntersuchungen - Teil 10: Gewichtssondierung (ISO
22476-10:2005)

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Foreword

This document (CEN ISO/TS 22476-10:2005) has been prepared by Technical Committee CEN/TC 341 "Geotechnical Investigation and Testing", the secretariat of which is held by DIN, in collaboration with Technical Committee ISO/TC 182 "Geotechnics".

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this CEN Technical Specification: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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EN ISO 22476 *Geotechnical investigation and testing - Field testing* has the following parts:

- *Part 1: Electrical cone and piezocone penetration tests*
- *Part 2: Dynamic probing*
- *Part 3: Standard penetration test*
- *Part 4: Ménard pressuremeter test*
- *Part 5: Flexible dilatometer test*
- *Part 6: Self-boring pressuremeter test (TS)¹⁾*
- *Part 7: Borehole jack test*
- *Part 8: Full displacement pressuremeter test (TS)¹⁾*
- *Part 9: Field vane test*
- *Part 10: Weight sounding test (TS)¹⁾*
- *Part 11: Flat dilatometer test (TS)¹⁾*
- *Part 12: Mechanical cone penetration test*
- *Part 13: Plate loading test.*

1) TS Technical Specification.

Introduction

The weight sounding penetrometer consists of a screw-shaped point, rods, weights or other loading system and a handle or a rotating device. The weight sounding test is made as a static sounding in soft soils when the penetration resistance is less than 1 kN. When the resistance exceeds 1 kN the penetrometer is rotated, manually or mechanically, and the number of half turns for a given depth of penetration is recorded.

The weight sounding test is primarily used to give a continuous soil profile and an indication of the layer sequence. The penetrability in even stiff clays and dense sands is good.

The weight sounding test is also used to estimate the density of cohesionless soils and to estimate the depth to very dense ground layers indicating the length of end-bearing piles.

1 Scope

This Technical Specification comprises requirements for ground investigations by means of the weight sounding test (WST) as part of the geotechnical investigations according to prEN 1997-1 and prEN 1997-2.

2 Normative references

Not applicable.

3 Terms and definitions

For the purposes of this Technical Specification, the following terms and definitions apply.

3.1

weight sounding resistance

either the smallest standard load for which the penetrometer sinks without rotation, or the number of half turns per 0,2 m of penetration when the penetrometer has its maximum load and is rotated

3.2

manual weight sounding test

test made by loading and rotating the penetrometer by hand using a handle

NOTE The penetrometer is loaded by weights.

3.3

mechanised weight sounding test

test in which loading and rotating of the penetrometer is made mechanically

NOTE The penetrometer is loaded mechanically or by dynamometer or by weights.

4 Equipment

4.1 Penetrometer tip

The dimensions of the penetrometer point are shown in Figure 1. The diameter of the circumscribed circle of the screw-shaped point shall be 35 mm. The length of the point shall be 200 mm. The point, which has a pyramidal tip as shown in Figure 1, shall be twisted one turn to the left over a length of 130 mm.

The diameter of the circumscribed circle for the worn point shall not be less than 32 mm. The maximum allowable shortening of the point tip due to wear shall be 15 mm. The tip of the point shall not be bent or broken.