



**SLOVENSKI STANDARD**  
**SIST EN 1536:2011/kFprA1:2014**  
**01-december-2014**

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**Izvedba posebnih geotehničnih del - Uvrtani piloti**

Execution of special geotechnical work - Bored piles

Ausführung von Arbeiten im Spezialtiefbau - Bohrpfähle

Exécution des travaux géotechniques spéciaux - Pieux forés

**Ta slovenski standard je istoveten z: EN 1536:2010/FprA1**

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**ICS:**

93.020	Zemeljska dela. Izkopavanja. Gradnja temeljev. Dela pod zemljo	Earthworks. Excavations. Foundation construction. Underground works
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**SIST EN 1536:2011/kFprA1:2014**                      **en,fr,de**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**FINAL DRAFT**  
**EN 1536:2010**

**FprA1**

October 2014

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ICS 93.020

English Version

## Execution of special geotechnical work - Bored piles

Exécution des travaux géotechniques spéciaux - Pieux  
forés

Ausführung von Arbeiten im Spezialtiefbau - Bohrpfähle

This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 288.

This draft amendment A1, if approved, will modify the European Standard EN 1536:2010. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## Foreword

This document (EN 1536:2010/FprA1:2014) has been prepared by Technical Committee CEN/TC 288 “Execution of special geotechnical works”, the secretariat of which is held by AFNOR.

This document is currently submitted to the Unique Acceptance Procedure.

The general scope of TC 288 is the standardization of the execution procedures for geotechnical works (including testing and control methods) and of the required material properties.

The Task Group CEN/TC 288/TG Amendments had been charged to amend EN 1536:2010, *Execution of special geotechnical work — Bored piles*, and EN 1538:2010, *Execution of special geotechnical work — Diaphragm walls*, in order to accord both standards with EN 206:2013, *Concrete — Specification, performance, production and conformity*. For this purpose, the technical provisions on fresh concrete, previously contained in 6.1, *Constituents*, and 6.3, *Concrete*, have been moved to the normative Annex D of EN 206:2013.

The design, planning and execution of bored piles call for experience and knowledge in this specialized field. The execution phase requires skilled and qualified personnel and the present standard cannot replace the expertise of specialist contractor.

For design, this document is complemented by EN 1997-1, *Eurocode 7: Geotechnical design — Part 1: General rules*, and EN 1997-2, *Eurocode 7 — Geotechnical design — Part 2: Ground investigation and testing*. Clause 7, *Considerations*, related to design of this European Standard expands on design only where necessary (e.g. the detailing of reinforcement), but provides full coverage of the construction and supervision requirements.

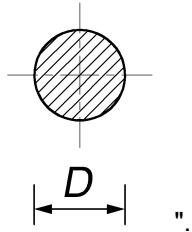
Concerning the acceptance of concrete on site, the concrete placement process, the curing and the quality control measures to be taken during the execution of bored piles, this European Standard provides the respective requirements which complement the general rules contained in EN 13670, *Execution of concrete structures*.

## EN 1536:2010/FprA1:2014 (E)

## 1 Modifications to Clause 1, Scope

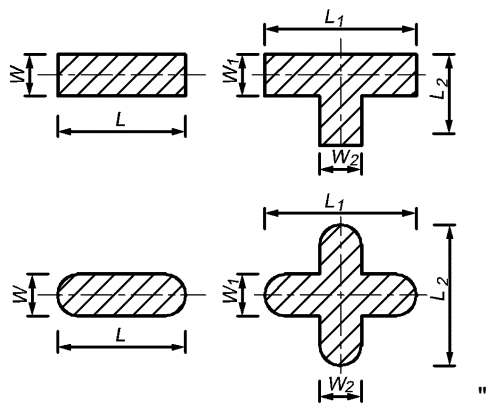
Replace Figure 1 with the following (better quality figure provided):

"



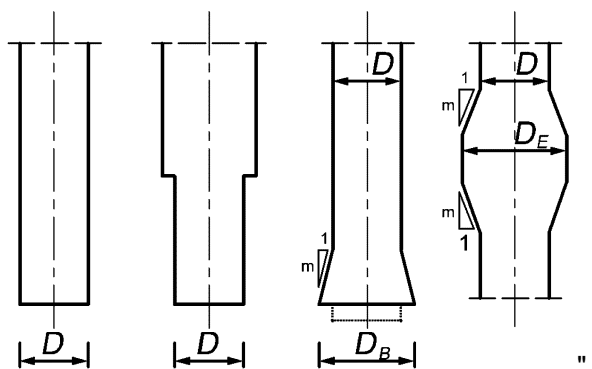
Replace Figure 2 with the following (better quality figure provided):

"



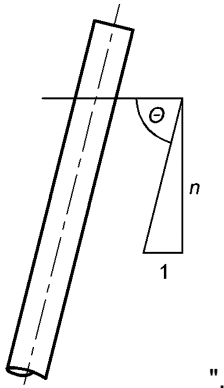
Replace Figure 3 with the following (better quality figure provided):

"



Replace Figure 4 with the following (better quality figure provided):

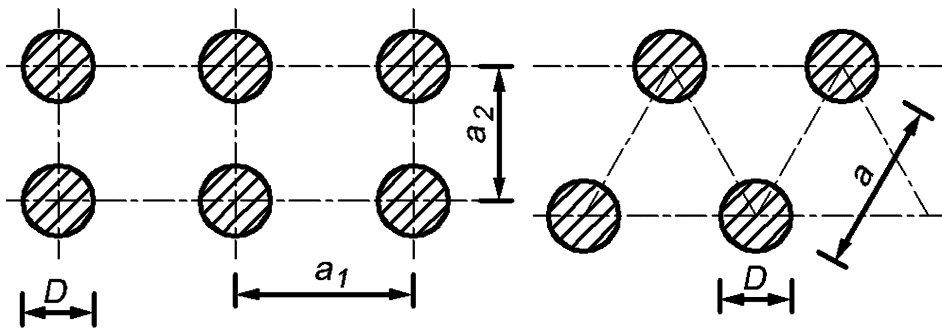
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Replace Figure 5 with the following (better quality figure provided):

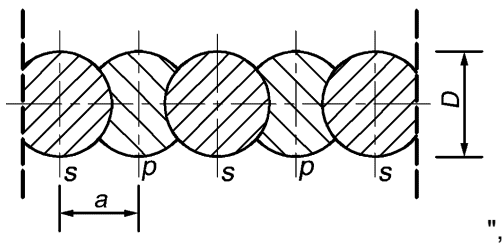
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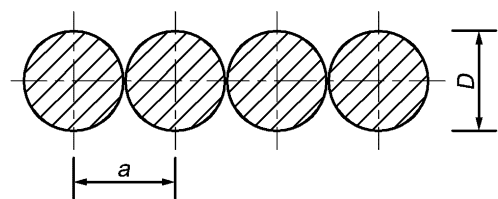
Replace Figure 6 with the following (better quality figures provided):

"



"

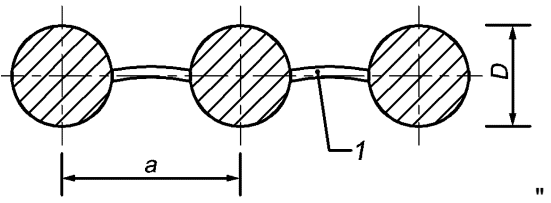
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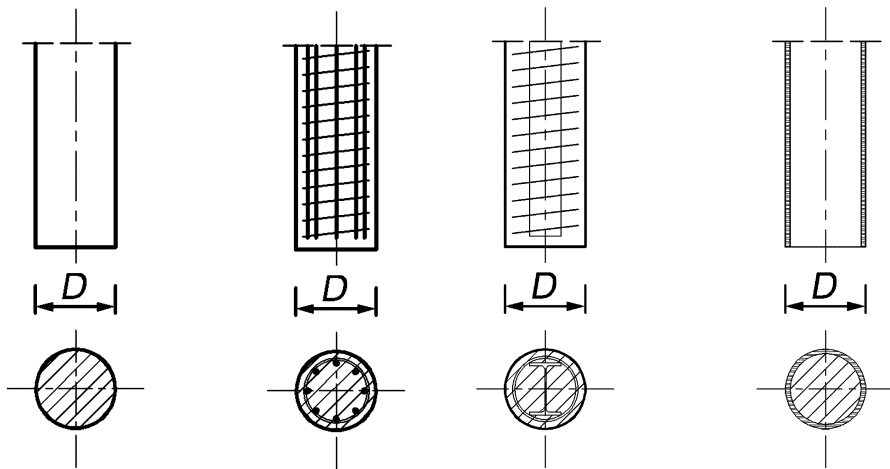
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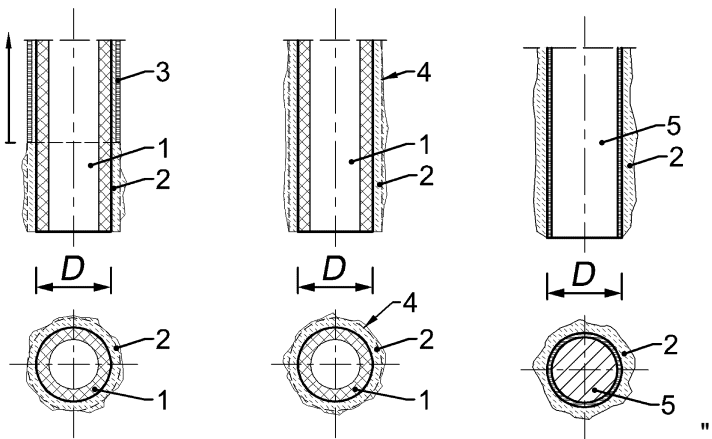
Replace Figure 7 with the following (better quality figures provided):

"



" and

"



"

**2 Modifications to Clause 2, Normative references**

Replace

"EN 206-1:2000, Concrete — Part 1: Specification, performance, production and conformity" with "EN 206:2013, Concrete Specification, performance, production and conformity".



Delete

"EN 197-1:2000, *Cement — Part 1: Composition, specifications and conformity criteria for common cements*";

"EN 934-2, *Admixtures for concrete, mortar and grout — Part 2: Concrete admixtures — Definitions, requirements, conformity, marking and labelling*" and

"EN 10248 (all parts), *Hot rolled sheet piling of non alloy steels*

EN 10249 (all parts), *Cold formed sheet piling of non alloy steels*

EN 12620, *Aggregates for concrete*".

### 3 Modification to Clause 3, Terms and definitions

In 3.4, replace "concrete or grout" with "concrete, mortar or grout" and "Figure A.4" with "Figure A.5" to read:

#### "3.4

#### **continuous flight auger pile**

#### **CFA-pile**

**fr** pieu à la tarière continue creuse (CFA)

**de** Schneckenbohrpfahl

pile formed by means of a hollow stemmed continuous flight auger through the stem of which concrete, mortar or grout is pumped as the auger is extracted

NOTE See Figure A.5".

### 4 Modifications to 6.1, Constituents

Replace 6.1.4 with the following:

"

#### **6.1.4 Cement**

**6.1.4.1** Cements for bored piles are listed in EN 206:2013, Annex D.

**6.1.4.2** The use of CEM II or CEM III cement or the partial replacement of CEM I cement by type II additions is recommended because they have been shown to have beneficial effects on concrete, such as:

- improved workability;
- reduced heat generation during setting;
- improved durability; and
- reduced bleeding rate.

NOTE 1 The use of CEM III cement type or the replacement of CEM I cement type by ground granulated blastfurnace slag can result in reduced permeability.

NOTE 2 Bleeding is less likely to be significant with cements with fineness of grind (Blaine) of 3 800 cm<sup>2</sup>/g or more."

Replace 6.1.5 to 6.1.8 with the following:

"