Execution of special geotechnical work - Ground anchors

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EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 1537:2000 sisaldab Euroopa standardi EN 1537:1999+ AC:2000 ingliskeelset teksti. Käesolev dokument on jõustatud 16.06.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1537:2000 consists of the English text of the European standard EN 1537:1999+ AC:2000. This document is endorsed on 16.06.2000 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This standard is applicable to the installation, testing and monitoring of permanent and temporary ground anchors where the load capacity is tested. An anchor consists of an anchor head, A free anchor lenght and A fixed anchor lenght which is bonded to the ground by grout. The term "ground" is taken to encompass both soil and rock.	**Scope:** This standard is applicable to the installation, testing and monitoring of permanent and temporary ground anchors where the load capacity is tested. An anchor consists of an anchor head, A free anchor lenght and A fixed anchor lenght which is bonded to the ground by grout. The term "ground" is taken to encompass both soil and rock.

ICS 93.020

Võtmesõnad: anchorage, armatures, corrosion prevention, design, grouting, inspection, setting-up condition, soils, structures, tests

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1537
December 1999
+ AC
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ICS 93.020

English version

Execution of special geotechnical work

Ground anchors

Exécution des travaux géotechniques spéciaux – Tirant d'ancrage

Ausführung von besonderen geotechnischen Arbeiten (Spezialtiefbau) – Verpreßanker

This European Standard was approved by CEN on 1998-02-20 and AC : 2000 on 2000-06-22.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Ref. No. EN 1537 : 1999 + AC : 2000 E

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 288 "Execution of special geotechnical works", 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 June 2000, and conflicting national standards shall be withdrawn at the latest by June 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

The remit of CEN/TC 288 is the standardisation of the execution procedures for geotechnical works (including testing and control methods) and of the required material properties. CEN/TC 288/WG 2 has been charged with the preparation of a Standard in the subject area of ground anchors, which includes all anchors bonded to the ground by grout and are tensioned.

The document has been prepared to stand alongside ENV 1997-1-1 : Geotechnical Design, General Rules. Clause 7 "Design considerations" of this Standard deals only with those matters which should be taken into account during the execution stage of ground anchor so that the design of the anchor system may be fulfilled. The Standard, however, provides full coverage of the construction and supervision requirements. An informative Annex D provides a detailed treatment of ground anchor design.

The Standard has been drafted by a working group comprising delegates from 10 countries and is based on the review of 10 national and international codes of practice.

1 Scope

This Standard is applicable to the installation, testing and monitoring of permanent and temporary ground anchors where the load capacity is tested. An anchor consists of an anchor head, A free anchor length and a fixed anchor length which is bonded to the ground by grout. The term "ground" is taken to encompass both soil and rock.

The planning and design of ground anchors calls for experience and knowledge in this specialised field and although these topics are covered briefly in ENV 1997-1 Eurocode 7 : Geotechnical Design, Part 1 : General Rules a more detailed treatment of the design of ground anchors is included in an annex to this Standard.

The installation and testing phases require skilled and qualified labour and supervision. This Standard cannot replace the knowledge of specialist personnel and the expertise of experienced contractors required to apply the Standard.

This Standard does not address alternative systems of anchoring such as tension piles, screw anchors, mechanical anchors, soil nails, expander anchors or deadman anchors.

The Standard establishes and defines principles with regard to anchor technology. Where anchor systems do not comply with the principles defined in the text, flexibility in the use of these systems is offered by written acceptance of the Client's Technical Representative.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

Exceptionally the list of normative references contains European Prestandards which are at the draft stage. If any of these documents becomes a European Standard the reference shall be checked.

EN 45014, *General criteria for declaration of conformity.*

ENV 206, *Concrete - Performance, production, placing and compliance criteria.*

ENV 1991-1-1, *Eurocode 1 : Basis of design and actions on structures - Part 1-1 : Basis of Design.*

ENV 1992-1-1, *Eurocode 2 : Design of concrete structures - Part 1-1 : General rules - General rules and rules for buildings.*

ENV 1992-1-5, *Eurocode 2 : Design of concrete structures - Part 1-5 : Structures with unbonded and external prestressing tendons.*

ENV 1993-1-1, *Eurocode 3 : Design of steel structures - Part 1-1 : General Rules and rules for buildings.*

ENV 1994-1-1, *Eurocode 4 : Design of composite steel and concrete structures - Part 1-1 :- General rules and rules for buildings.*

ENV 1997-1:1994, *Eurocode 7 : Geotechnical design - Part 1 : General rules.*

prEN 445, *Grout for prestressing tendons - Test methods.*

prEN 446, *Grout for prestressing tendons - Grouting procedures.*

prEN 447, *Grout for prestressing tendons.*

prEN 10138, Design of prestressing steel - Specification for common grout