DIN EN 14679

ICS 93.020

Execution of special geotechnical works

Deep mixing

English version of DIN EN 14679

Ausführung von besonderen geotechnischen Arbeiten (Spezialtiefbau) – Tiefreichende Bodenstabilisierung

National foreword

This standard has been prepared by CEN/TC 288 ‘Execution of special geotechnical works’ (Secretariat: France), Working Group 10 ‘Deep mixing’ (Secretariat: Sweden).

The responsible German body involved in its preparation was the *Normenausschuss Bauwesen* (Building and Civil Engineering Standards Committee). However, at present a DIN committee does not exist for this standard since the parties concerned have not shown any interest in work on the subject. Therefore, the standard has been assigned to Technical Committee 05.08.00 *Injektionen, Düsenstrahlverfahren, tiefreichende Bodenstabilisierung*.

Document comprises 50 pages.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 14679

April 2005

ICS 93.020

English version

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Exécution des travaux géotechniques spéciaux – Colonnes de sol traité

Ausführung von besonderen geotechnischen Arbeiten (Spezialtiefbau) – Tiefreichende Bodenstabilisierung

This European Standard was approved by CEN on 2005-02-28.

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

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CEN

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 14679:2005 E

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Foreword

This document (EN 14679:2005) 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of an identical text or by endorsement, at the latest by October 2005, and conflicting national standards shall be withdrawn at the latest by October 2005.

The document has been prepared to stand alongside EN 1997-1 and prEN 1997-2. This document expands on design only where necessary, but provides full coverage of the construction and supervision requirements.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: 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.

1 Scope

This document specifies general principles for the execution, testing, supervision and monitoring of deep mixing works carried out by two different methods: dry mixing and wet mixing.

Deep mixing considered in this document is limited to methods, which involve:

a) mixing by rotating mechanical mixing tools (see Annex A, Figure A.1) where the lateral support provided to the surrounding soil is not removed;

b) treatment of the soil to a minimum depth of 3 m;

c) different shapes and configurations, consisting of either single columns, panels, grids, blocks, walls or any combination of more than one single column, overlapping or not (see Annex A, Figures A.8 to A.12);

d) treatment of natural soil, fill, waste deposits and slurries, etc.;

e) other ground improvement methods using similar techniques exist (see A.3.5).

Guidance on practical aspects of deep mixing, such as execution procedures and equipment, is given in Annex A. Main applications are exemplified in Annex A, Figure A.14. Methods of testing, specification and assessment of design parameters, which are affected by execution, are presented in Annex B.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 196-1, *Methods of testing cement — Part 1: Determination of strength*

EN 196-2, *Methods of testing cement — Part 2: Chemical analysis of cement*

EN 196-3, *Methods of testing cement — Part 3: Determination of setting time and soundness*

EN 196-4, *Methods of testing cement — Part 4: Quality determination of constituents*

EN 196-5, *Methods of testing cement — Part 5: Pozzolanicity tests for pozzolanic cement*

EN 196-6, *Methods of testing cement — Part 6: Determination of fineness*

EN 196-7, *Methods of testing cement — Part 7: Methods of taking and preparing samples of cement*

EN 196-8, *Methods of testing cement — Part 8: Heat of hydration — Solution method*

EN 196-21, *Methods of testing cement — Part 21: Determination of the chloride, carbon dioxide and alkali content of cement*

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

EN 197-2:2000, *Cement — Part 2: Conformity evaluation*

EN 451, *Methods of testing fly ash*

EN 459-1, *Building lime — Part 1: Definitions, specifications and conformity criteria*