

Unbound and hydraulically bound mixtures - Part 53: Methods for the manufacture of test specimens of hydraulically bound mixtures using axial compression

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hydraulically bound mixtures using axial
compression

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13286-53:2005 sisaldab Euroopa standardi EN 13286-53:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 22.02.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13286-53:2005 consists of the English text of the European standard EN 13286-53:2004.</p> <p>This document is endorsed on 22.02.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This European Standard specifies the method of making cylindrical specimens to a predetermined density and moisture content by axial compression. The method is appropriate for mixtures, or that part of a mixture, containing aggregate up to a maximum size of 22 mm, and for mixtures that have sufficient fines or 'cohesion' to permit extrusion without damage immediately after compaction</p>	<p>Scope:</p> <p>This European Standard specifies the method of making cylindrical specimens to a predetermined density and moisture content by axial compression. The method is appropriate for mixtures, or that part of a mixture, containing aggregate up to a maximum size of 22 mm, and for mixtures that have sufficient fines or 'cohesion' to permit extrusion without damage immediately after compaction</p>
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ICS 93.080.20

Võtmesõnad: density (mass/volume), granular materials, roa, rocks, sample division, samples, sampling, sampling methods, specification (approval), specifications, specimen preparation, storage, test specimens, testing, testing conditions, testing devices, unbound, water content

ICS 93.080.20

English version

**Unbound and hydraulically bound mixtures - Part 53: Methods
for the manufacture of test specimens of hydraulically bound
mixtures using axial compression**

Mélanges traités et mélanges non traités aux liants
hydrauliques - Partie 53: Méthode de confection par
compression axiale des éprouvettes de matériaux traités
aux liants hydrauliques

Ungebundene und hydraulisch gebundene Gemische - Teil
53: Verfahren zur Herstellung von Probekörpern von
hydraulisch gebundenen Gemischen durch axialen Druck

This European Standard was approved by CEN on 12 November 2004.

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.

This European Standard exists 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.

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Foreword

This document (EN 13286-53:2004) has been prepared by Technical Committee CEN/TC 227 "Road materials", the secretariat of which is held by DIN.

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 2005, and conflicting national standards shall be withdrawn at the latest by June 2005.

This document is one of a series of documents as listed below.

EN 13286-1, *Unbound and hydraulically bound mixtures — Part 1: Test methods for laboratory reference density and water content — Introduction, general requirements and sampling*

EN 13286-2, *Unbound and hydraulically bound mixtures — Part 2: Test methods for the determination of the laboratory reference density and water content — Proctor compaction*

EN 13286-3, *Unbound and hydraulically bound mixtures — Part 3: Test methods for laboratory reference density and water content — Vibrocompression with controlled parameters*

EN 13286-4, *Unbound and hydraulically bound mixtures — Part 4: Test methods for laboratory reference density and water content — Vibrating hammer*

EN 13286-5, *Unbound and hydraulically bound mixtures — Part 5: Test methods for laboratory reference density and water content — Vibrating table*

EN 13286-7, *Unbound and hydraulically bound mixtures — Part 7: Cyclic load triaxial test for unbound mixtures*

EN 13286-40, *Unbound and hydraulically bound mixtures — Part 40: Test method for the determination of the direct tensile strength of hydraulically bound mixtures*

EN 13286-41, *Unbound and hydraulically bound mixtures — Part 41: Test method for the determination of the compressive strength of hydraulically bound mixtures*

EN 13286-42, *Unbound and hydraulically bound mixtures — Part 42: Test method for the determination of the indirect tensile strength of hydraulically bound mixtures*

EN 13286-43, *Unbound and hydraulically bound mixtures — Part 43: Test method for the determination of the modulus of elasticity of hydraulically bound mixtures*

EN 13286-44, *Unbound and hydraulically bound mixtures — Part 44: Test method for the determination of the alpha coefficient of vitrified blast furnace slag*

EN 13286-45, *Unbound and hydraulically bound mixtures — Part 45: Test method for the determination of the workability period of hydraulically bound mixtures*

EN 13286-46, *Unbound and hydraulically bound mixtures — Part 46: Test method for the determination of the moisture condition value*

EN 13286-47, *Unbound and hydraulically bound mixtures — Part 47: Test method for the determination of California bearing ratio, immediate bearing index and linear swelling*

prEN 13286-48, *Unbound and hydraulically bound mixtures — Part 48: Test method for the determination of the degree of pulverisation*

EN 13286-49, *Unbound and hydraulically bound mixtures — Part 49: Accelerated swelling test for soil treated by lime and/or hydraulic binder*

EN 13286-50, *Unbound and hydraulically bound mixtures — Part 50: Method for the manufacture of test specimens of hydraulically bound mixtures using Proctor equipment or vibrating table compaction*

EN 13286-51, *Unbound and hydraulically bound mixtures — Part 51: Method for the manufacture of test specimens of hydraulically bound mixtures using vibrating hammer compaction*

EN 13286-52, *Unbound and hydraulically bound mixtures — Part 52: Method for the manufacture of test specimens of hydraulically bound mixtures using vibrocompression*

EN 13286-53, *Unbound and hydraulically bound mixtures — Part 53: Methods for the manufacture of test specimens of hydraulically bound mixtures using axial compression*

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 a test method for making cylindrical specimens of hydraulically bound mixtures to a predetermined density and moisture content by axial compression. This document applies to mixtures, or that part of a mixture, containing aggregate up to a maximum size of 22,4 mm, and for mixtures that have sufficient fines or cohesion to allow extrusion without damage immediately after compaction.

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 933-2, *Tests for geometrical properties of aggregates — Part 2: Determination of particle size distribution — Test sieves, nominal size of apertures*

3 Terms and definitions

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

3.1

compaction by axial compression

method of manufacture of a laboratory test specimen by compacting a predetermined quantity of mixture into a cylindrical mould of known volume using axial pressure applied through pistons or plugs at both ends of the mould

3.2

slenderness ratio

height to diameter ratio of the specimen

4 Symbols

For the purposes of this document, the following symbols apply.

- d specimen diameter, in millimetres (mm);
- h specimen height, in millimetres (mm);
- e displacement depth of collar, in millimetres (mm);
- m mass of the specimen, in grams (g);
- V volume of the specimen, in cubic millimetres (mm³);
- ρ_d dry density of the specimen, in megagrams per cubic metre (Mg/m³);
- w water content of the mixture expressed as a percentage by dry mass (%).