

## საქართველოს სტანდარტი

---

---

გახსნილი და ჰიდრაულიკურად შეკრული ნარევები - ნაწილი 2:  
ლაბორატორიული საყრდენი დონის სიმკვრივის და წყლის შემცველობის  
გამოცდის მეთოდები -პროეტორის შეკუმშვა

საქართველოს სტანდარტებისა და მეტროლოგიის  
ეროვნული სააგენტო  
თბილისი

საინფორმაციო მონაცემები

1 შემუშავებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს სტანდარტების დეპარტამენტის მიერ

2 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს 2020 წლის 07 მაისის № 53 განკარგულებით

3 მიღებულია გარეკანის თარგმნის მეთოდით სტანდარტების ევროპული კომიტეტის სტანდარტი ენ 13286-2:2010 „ გახსნილი და ჰიდრავლიკურად შეკრული ნარევები - ნაწილი 2: ლაბორატორიული საყრდენი დონის სიმკვრივის და წყლის შემცველობის გამოცდის მეთოდები -პროქტორის შეკუმშვა”

4 პირველად

5 რეგისტრირებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს რეგისტრში: 2020 წლის 07 მაისი №268-1.3-017158

დაუშვებელია წინამდებარე სტანდარტის სრული ან ნაწილობრივი კვლავწარმოება, ტირაჟირება და გავრცელება სსიპ საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს ნებართვის გარეშე

**EUROPEAN STANDARD**  
**NORME EUROPÉENNE**  
**EUROPÄISCHE NORM**

**EN 13286-2**

September 2010

ICS 93.080.20

Supersedes EN 13286-2:2004

English Version

**Unbound and hydraulically bound mixtures - Part 2: Test methods for laboratory reference density and water content - Proctor compaction**

Mélanges traités et mélanges non traités - Partie 2:  
Méthodes d'essai de détermination en laboratoire de la  
masse volumique de référence et de la teneur en eau -  
Compactage Proctor

Ungebundene und hydraulisch gebundene Gemische - Teil  
2: Laborprüfverfahren zur Bestimmung der Dichte und des  
Wassergehaltes - Proctorversuch

This European Standard was approved by CEN on 22 July 2010.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

## Contents

	page
<b>Foreword</b> .....	<b>3</b>
<b>1 Scope</b> .....	<b>5</b>
<b>2 Normative references</b> .....	<b>5</b>
<b>3 Terms and definitions</b> .....	<b>5</b>
<b>4 Principle</b> .....	<b>6</b>
<b>5 Apparatus</b> .....	<b>6</b>
<b>6 Preparation</b> .....	<b>10</b>
<b>6.1 General</b> .....	10
<b>6.2 Samples for compaction tests</b> .....	11
<b>6.3 Preliminary assessment</b> .....	11
<b>6.4 Mixtures totally passing the 16 mm test sieve</b> .....	11
<b>6.5 Mixtures not totally passing the 16 mm test sieve</b> .....	11
<b>6.5.1 Mixtures totally passing the 31,5 mm test sieve</b> .....	11
<b>6.5.2 Mixtures 75 % to 100 % passing the 31,5 mm test sieve and totally passing the 63 mm test sieve</b> .....	12
<b>6.5.3 Mixtures with an oversize &gt; 25 % by mass on the 31,5 mm test sieve and 75 % to 100 % passing the 63 mm test sieve</b> .....	12
<b>7 Procedure</b> .....	<b>12</b>
<b>7.1 Proctor test for mixtures compacted with a 2,5 kg rammer (A) in the Proctor mould (A)</b> .....	12
<b>7.2 Proctor test for mixtures compacted with a 2,5 kg rammer (A) in the large Proctor mould (B)</b> .....	13
<b>7.3 Proctor test for mixtures compacted with a 15,0 kg rammer (C) in the extra large Proctor mould (C)</b> .....	14
<b>7.4 Modified Proctor test for mixtures compacted with a 4,5 kg rammer (B) in the Proctor mould (A)</b> .....	14
<b>7.5 Modified Proctor test for mixtures compacted with a 4,5 kg rammer (B) in the large Proctor mould (B)</b> .....	15
<b>7.6 Modified Proctor test for mixtures compacted with a 15,0 kg rammer (C) in the extra large Proctor mould (C)</b> .....	16
<b>8 Calculations, plotting and expression of results</b> .....	<b>17</b>
<b>8.1 Calculations</b> .....	17
<b>8.2 Plotting</b> .....	17
<b>9 Test report</b> .....	<b>18</b>
<b>Annex A (informative) Dimensions of alternative apparatus</b> .....	<b>19</b>
<b>Annex B (normative) One point Proctor test</b> .....	<b>22</b>
<b>Annex C (informative) Correction for oversize (material retained on the 16 mm, 31,5 mm and 63 mm test sieves)</b> .....	26
<b>Annex D (informative) Proctor test for self-draining mixtures</b> .....	27

## Foreword

This document (EN 13286-2:2010) 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 March 2011, and conflicting national standards shall be withdrawn at the latest by March 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13286-2:2004.

This document is one of a series of standards 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 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 methods for the determination of California bearing ratio, immediate bearing index and linear swelling*

EN 13286-48, *Unbound and hydraulically bound mixtures — Part 48: Test method for the determination of degrees 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, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.