

**Test for mechanical and physical  
properties of aggregates - Part 5:  
Determination of the water content by  
drying in a ventilated oven**

Test for mechanical and physical properties of  
aggregates - Part 5: Determination of the water  
content by drying in a ventilated oven

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1097-5:2001 sisaldab Euroopa standardi EN 1097-5:1999 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.06.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1097-5:2001 consists of the English text of the European standard EN 1097-5:1999.</p> <p>This document is endorsed on 18.06.2001 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><b>Käsitlusala:</b> This European standard specifies a procedure for determining the water content of aggregates by drying in a ventilated oven.</p>	<p><b>Scope:</b> This European standard specifies a procedure for determining the water content of aggregates by drying in a ventilated oven.</p>
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**ICS** 91.100.15

**Võtmesõnad:**

**English version**

**Test for mechanical and physical properties of  
aggregates**

**Part 5: Determination of the water content by drying in a ventilated oven**

Essais pour déterminer les  
caractéristiques mécaniques et  
physiques des granulats – Partie 5:  
Détermination de la teneur en eau par  
séchage en étuve ventilée

Prüfverfahren für mechanische und  
physikalische Eigenschaften von  
Gesteinskörnungen – Teil 5:  
Bestimmung des Wassergehaltes  
durch Ofentrocknung

This European Standard was approved by CEN on 1999-06-11.

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**

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## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 154 "Aggregates", the secretariat of which is held by BSI.

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 January 2000, and conflicting national standards shall be withdrawn at the latest by December 2003.

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.

This Standard forms part of a series of tests for mechanical and physical properties of aggregates. Test methods for other properties of aggregates are covered by parts of the following European Standards:

EN 932	Tests for general properties of aggregates
EN 933	Tests for geometrical properties of aggregates
EN 1367	Tests for thermal and weathering properties of aggregates
EN 1744	Tests for chemical properties of aggregates
EN 13179	Tests for filler aggregate used in bituminous mixtures

The other parts of EN 1097 will be:

Part 1	Determination of the resistance to wear (micro-Deval)
Part 2	Methods for the determination of resistance to fragmentation
Part 3	Determination of loose bulk density and voids
Part 4	Determination of the voids of dry compacted filler
Part 6	Determination of particle density and water absorption
Part 7	Determination of the particle density of filler - Pycnometer method
Part 8	Determination of the polished stone value
Part 9	Method for the determination of the resistance to wear by abrasion from studded tyres: Nordic test
Part 10	Water suction height

## 1 Scope

This European standard specifies a procedure for determining the water content of aggregates by drying in a ventilated oven.

## 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.

EN 932-2 Tests for general properties of aggregates -  
Part 2: Methods for reducing laboratory samples

prEN 932-5 Tests for general properties of aggregates -  
Part 5: Common equipment and calibration

## 3 Terms and definitions

For the purposes of this standard the following terms and definitions apply.

**3.1 aggregate size:** Designation of aggregate in terms of lower ( $d$ ) and upper ( $D$ ) sieve sizes. This designation accepts the presence of some particles which will be retained on the upper sieve (oversize) and some which will pass the lower sieve (undersize).

**3.2 test portion:** Sample used as a whole in a single test.

**3.3 constant mass:** Successive weighings after drying at least 1 h apart not differing by more than 0,1 %.

NOTE: In many cases constant mass can be achieved after a test portion has been dried for a pre-determined period in a specified oven at  $(110 \pm 5) ^\circ\text{C}$ . Test laboratories can determine the time required to achieve constant mass for specific types and sizes of sample dependent upon the drying capacity of the oven used.

## 4 Principle

The oven-drying method provides a measure of the total free water present in a test portion of aggregate. The water can be from the surface of the aggregate and from water accessible pores within the aggregate particles.

A test portion is weighed and then placed in a ventilated drying oven at a temperature of  $(110 \pm 5) ^\circ\text{C}$ . Successive weighings are used to determine the constant mass of the dried test portion. At all stages of handling and preparation before the start of the test, the laboratory sample and subsequent test portion are protected from loss or gain of water.

The water content is determined as the difference in mass between the wet and the dry mass and is expressed as a percentage of the dry mass of the test portion.

A variation on the method for use with lightweight aggregates is specified in annex A.