

**Tests for mechanical and physical properties of
aggregates - Part 10: Determination of water suction
height**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 1097-10:2014 sisaldab Euroopa standardi EN 1097-10:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 1097-10:2014 consists of the English text of the European standard EN 1097-10:2014.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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English Version

**Tests for mechanical and physical properties of aggregates -
Part 10: Determination of water suction height**

Essais pour déterminer les caractéristiques mécaniques et
physiques des granulats - Partie 10: Hauteur de succion
d'eau

Prüfverfahren für mechanische und physikalische
Eigenschaften von Gesteinskörnungen - Teil 10:
Bestimmung der Wassersaughöhe

This European Standard was approved by CEN on 24 February 2014.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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Foreword

This document (EN 1097-10:2014) 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of an identical text or by endorsement, at the latest by October 2014 and conflicting national standards shall be withdrawn at the latest by October 2014.

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 1097-10:2002.

This European Standard forms part of a series of tests for mechanical and physical properties of aggregates. Test methods for other properties of aggregates will be 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 are:

- *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 5: Determination of the water content by drying in a ventilated oven*
- *Part 6: Determination of particle density and water absorption*
- *Part 7: Determination of the particle density of filler — Pyknometer method*
- *Part 8: Determination of the polished stone value*
- *Part 9: Determination of the resistance to wear by abrasion from studded tyres — Nordic test*
- *Part 11: Determination of compressibility and confined compressive strength of lightweight aggregates*

The technical changes between this edition and the 2002 version are as follows:

- a) 6.3 and 6.4, minimum size of vessel and moisture container have been reduced;
- b) 6.13, tolerance on temperature stability has been broaden;

- c) Clause 7, Table 2, minimum volume of test portion has been reduced;
- d) 8.4, Figure 2 has been redrawn and clarified;
- e) 8.2 to 8.4, units have been updated;
- f) Definition of constant moisture content has been clarified and appended to 8.4.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the reference method, used for type testing and in case of dispute, for determining the water suction height of an aggregate in direct contact with a free water surface. For other purposes, in particular production control, other methods may be used, provided that an appropriate working relationship with the reference methods has been established.

NOTE Capillary water uptake in an aggregate layer under the ground floor may cause moisture problems in the building. If the layer is thicker than the water suction height of the aggregate used, the layer is considered as a capillary barrier.

2 Normative references

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

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

EN 932-5, *Tests for general properties of aggregates - Part 5: Common equipment and calibration*

EN 1097-5, *Tests for mechanical and physical properties of aggregates - Part 5: Determination of the water content by drying in a ventilated oven*

3 Terms and definitions

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

3.1

water suction height

level to which the water raises in a layer of aggregate in direct contact with a free water surface

3.2

maximal hygroscopic moisture content

moisture content of aggregates in a sealed container just below 100 % relative humidity

3.3

aggregate size

designation of aggregate in terms of lower (d) and upper (D) sieve sizes

Note 1 to entry: 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).

3.4

constant mass

mass determined after successive weighings at least 1 h apart not differing by more than 0,1 %

Note 1 to entry: 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.

3.5

test portion

sample used as a whole in a single test