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# Conservation of cultural property - Test methods - Determination of water absorption by capillarity

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English Version

## Conservation of cultural property - Test methods - Determination of water absorption by capillarity

Conservation des biens culturels - Méthodes d'essai -  
Détermination de l'absorption par capillarité

Erhaltung des kulturellen Erbes - Prüfverfahren -  
Bestimmung der Wasserabsorption durch Kapillarität

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## **Foreword**

This document (EN 15801:2009) has been prepared by Technical Committee CEN/TC 346 “Conservation of cultural property”, the secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by June 2010 and conflicting national standards shall be withdrawn at the latest by June 2010.

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## **Introduction**

This test method can be applied if it does not change the value of the cultural property and follows relevant ethical codes of conservation practice.

## 1 Scope

This European Standard specifies a method for determining the water absorption by capillarity of porous inorganic materials used for and constituting cultural property. The method may be applied to porous inorganic materials either untreated or subjected to any treatment or ageing.

## 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.

prEN 15898:2009, *Conservation of cultural property — Main general terms and definitions concerning conservation of cultural property*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in prEN 15898:2009 and the following apply.

### 3.1

#### **porous inorganic materials**

materials including natural stones, e.g. sandstone, limestone, marble, as well as artificial materials, such as mortar, plaster, brick and others

## 4 Principle

Determination of the amount and rate at which a specimen absorbs water by capillarity through the test surface when it is in contact with water.

## 5 Symbols and abbreviations

For the purposes of this document, the following symbols and abbreviations apply:

$m_0$  mass of the dry specimen, in kg

$m_i$  mass of the specimen at time  $t_i$ , in kg

$A$  area of the specimen in contact with water, in  $m^2$

$t_i$  time elapsed from the beginning of the test, in s

$Q_i$  water absorbed per unit area, in  $kg/m^2$

$AC$  capillary water absorption coefficient, in  $kg/(m^2 \cdot s^{1/2})$

$H_i$  height of the front of water, in cm

$B$  capillary water penetration coefficient, in  $cm/s^{1/2}$

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