

**EN 17114:2018**

 **NBN**

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**Conservation of cultural heritage - Surface protection for porous inorganic materials - Technical and chemical data sheets of water repellent product**

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Valid from 19-12-2018

ICS: 97.195

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EUROPEAN STANDARD  
 NORME EUROPÉENNE  
 EUROPÄISCHE NORM

**EN 17114**

November 2018

ICS 97.195

English Version

**Conservation of cultural heritage - Surface protection for  
 porous inorganic materials - Technical and chemical data  
 sheets of water repellent product**

Conservation du patrimoine culturel - Protection de  
 surface des matériaux inorganiques poreux - Fiches de  
 données techniques et chimiques des produits  
 hydrofuges

Erhaltung des kulturellen Erbes - Oberflächenschutz  
 für poröse anorganische Materialien - Technische und  
 chemische Datenblätter von wasserabweisenden  
 Produkten

This European Standard was approved by CEN on 15 July 2018.

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## European foreword

This document (EN 17114:2018) has been prepared by Technical Committee CEN/TC 346 “Conservation of Cultural Heritage”, 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of an identical text or by endorsement, at the latest by May 2019 and conflicting national standards shall be withdrawn at the latest by May 2019.

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

This document calls for the use of substances and/or procedures that can be injurious to health and harmful for the environment if adequate precautions are not taken. It refers only to technical suitability and this not absolves the user from legal obligations relating to health and safety at any stage.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## EN 17114:2018 (E)

### Introduction

This document indicates the chemical and physical characteristics, properties and performance meant to be reported in the technical data sheet of a water repellent product used for conservation work on porous inorganic materials in the field of Cultural Heritage.

The products covered by this standard are usually applied in a liquid state with the aim of imparting hydrophobic properties to the material on which they are applied. Some products also have additional functions (e.g. superficial consolidation, anti-graffiti, biocidal action, etc.).

The main goal of a water repellent is to reduce the penetration of water and aqueous solutions into porous material by modifying surface properties both externally and within the near surface area.

According to EN 16581, a water repellent should fulfil the following requirements:

- a) reduce the absorption of liquid water into the material;
- b) cause minimum change of water vapour permeability of the material;
- c) cause minimum change in colour and gloss of the material;
- d) produce no harmful by-products after application;
- e) maintain its physical and chemical stability.

It is recommended to read the relevant safety data sheets on the occupational and health hazards of the main chemical constituents of the products before using them.

The manufacturer should also provide safety data sheets.

## 1 Scope

This document specifies the information contained in the technical data sheet of the product in order to allow a preliminary selection of the most suitable products to use in a specific case of intervention.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 15801, *Conservation of cultural property - Test methods - Determination of water absorption by capillarity*

EN 15802, *Conservation of cultural property - Test methods - Determination of static contact angle*

EN 15803, *Conservation of cultural property - Test methods - Determination of water vapour permeability ( $\delta p$ )*

EN 15886, *Conservation of cultural property - Test methods - Colour measurement of surfaces*

EN 16302, *Conservation of cultural heritage - Test methods - Measurement of water absorption by pipe method*

EN 16322, *Conservation of Cultural Heritage - Test methods - Determination of drying properties*

EN 16581, *Conservation of Cultural Heritage - Surface protection for porous inorganic materials - Laboratory test methods for the evaluation of the performance of water repellent products*

EN 17036, *Conservation of Cultural Heritage - Artificial ageing by simulated solar radiation of the surface of untreated or treated porous inorganic materials*

## 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1

#### **porous inorganic material**

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

[SOURCE: EN 15801:2009, 3.1]

### 3.2

#### **dry product**

water repellent chemical present in the material in its final form; after the completion of the reactions / transformations (solvent evaporation, polymerization, cross-linking, etc.) leading to the development of water resistant characteristics