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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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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

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

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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of an identical text or by endorsement, at the latest by May 2019 and conflicting national standards shall be withdrawn at the latest by May 2019.

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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 (δp)*

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