Natural stone test methods - Determination of resistance to ageing by salt mist

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 14147:2004 sisaldab Euroopa standardi EN 14147:2003 ingliskeelset teksti. Käesolev dokument on jõustatud 20.02.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 14147:2004 consists of the English text of the European standard EN 14147:2003. This document is endorsed on 20.02.2004 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard specifies a method to assess the relative resistance of natural stones to agening by salt mist.	**Scope:** This European Standard specifies a method to assess the relative resistance of natural stones to agening by salt mist.

ICS 73.020, 91.100.15

Võtmesõnad: ageing stability, ageing tests, aging tests, construction, crystallizations, loss of mass, materials, materials testing, natural stones, porosity, resistance, salt mist, salt mist test, testing

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14147

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ICS 73.020; 91.100.15

English version

Natural stone test methods - Determination of resistance to ageing by salt mist

Méthodes d'essai pour éléments en pierre naturelle - Détermination de la résistance au vieillissement accéléré au brouillard salin

Prüfverfahren für Naturstein - Bestimmung der Beständigkeit gegen Alterung durch Salzsprühnebel

This European Standard was approved by CEN on 1 September 2003.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

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Foreword

This document (EN 14147:2003) has been prepared by Technical Committee CEN /TC 246, "Natural stones" 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 2004, and conflicting national standards shall be withdrawn at the latest by May 2004.

This Standard is one of the series of standards for tests on natural stone.

Test methods for natural stone consist of the following parts:

EN 1925, *Natural stone test methods – Determination of water absorption coefficient by capillarity*

EN 1926, *Natural stone test methods – Determination of compressive strength*

EN 1936, *Natural stone test methods – Determination of real density and apparent density and of total and open porosity*

EN 12370, *Natural stone test methods – Determination of resistance to salt crystallisation*

EN 12371, *Natural stone test methods - Determination of frost resistance*

EN 12372, *Natural stone test methods – Determination of flexural strength under concentrated load*

EN 12407, *Natural stone test methods – Petrographic examination*

EN 13161, *Natural stone test methods – Determination of flexural strength under constant moment*

EN 13364, *Natural stone test methods - Determination of the breaking load at dowel hole*

EN 13755, *Natural stone test methods – Determination of water absorption at atmospheric pressure*

EN 13373, *Natural stone test methods – Determination of geometric characteristics on units*

EN 13919, *Natural stone test methods – Determination of resistance to ageing by SO_2 action in the presence of humidity*

EN 14066, *Natural stone test methods – Determination of resistance to ageing by thermal shock*

prEN 14157, *Natural stone test methods – Determination of the abrasion resistance*

prEN 14158, *Natural stone test methods – Determination of rupture energy*

prEN 14205, *Natural stone test methods - Determination of Knoop hardness*

prEN 14231, *Natural stone test methods – Determination of the slip resistance by means of the pendulum tester*

prEN 14581, *Natural stone test methods – Determination of thermal expansion coefficient*

prEN 14579, *Natural stone test methods – Determination of sound speed propagation*

prEN 14580, *Natural stone test methods – Determination of the static elastic modulus*

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies a method to assess the resistance of natural stones to ageing by salt mist.

2 Normative references

Non applicable.

3 Principle

The specimens are placed in a chamber and sprayed with a salt solution for 4 hours and, afterwards, dried for 8 hours. This cycle is repeated successively.

4 Symbols

M_0 - mass of the dried specimen in grams.

M_n - mass of the dried specimen after n exposure cycles in grams.

ΔM - percentage of mass loss.

5 Apparatus

- Chamber capable to perform alternating cycles of salt mist atmosphere and drying (Figure 1), at a temperature of (35 ± 5)°C.

- System for spraying the salt solution into the chamber which includes atomizing nozzles and deflecting plates to avoid direct spraying of the specimens.

- Two fog collectors having a horizontal collecting area of about 8000 mm^2 (e.g. 100 mm diameter glass funnels with stems inserted into graduated cylinders).

- Ventilated oven capable of maintaining a temperature of (70 ± 5)°C

- Weighing instrument capable of weighing the specimens with an accuracy of 0,1 g.

- Conductivity meter, capable of measuring the conductivity of the water used to prepare the salt solution and of the rinsing water.

- Sodium chloride solution prepared using sodium chloride with a purity grade not less than 95% and distilled or deionised water having a conductivity less or equal to 20 µS/cm at (25 ± 2)°C. The solution shall be prepared by dissolving 10 ± 1 parts by mass of sodium chloride in 90 parts of distilled or deionised water, in order to obtain a concentration of (100 ± 10) g/l. After preparation the solution is filtered or decanted.

6 Preparation of specimens

6.1 Sampling

The sampling is not the responsibility of the test laboratory, except when specially requested.

At least six test specimens, which are considered representative of the body of stone being tested shall be selected.