Irish Standard
I.S. EN 12370:2020

Natural stone test methods - Determination of resistance to salt crystallisation

I.S. EN 12370:2020

Incorporating amendments/corrigenda/National Annexes issued since publication:

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This document is based on:	*Published:*
EN 12370:2020	2020-03-04

This document was published under the authority of the NSAI and comes into effect on:	ICS number:
2020-03-22	73.020 91.100.15
	NOTE: If blank see CEN/CENELEC cover page

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National Foreword

I.S. EN 12370:2020 is the adopted Irish version of the European Document EN 12370:2020, Natural stone test methods - Determination of resistance to salt crystallisation

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12370

March 2020

ICS 73.020; 91.100.15

Supersedes EN 12370:1999

English Version

Natural stone test methods - Determination of resistance to salt crystallisation

Méthodes d'essai pour pierres naturelles - Détermination de la résistance à la cristallisation des sels

Prüfverfahren für Naturstein - Bestimmung des Widerstandes gegen Kristallisation von Salzen

This European Standard was approved by CEN on 1 December 2019.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Ref. No. EN 12370:2020 E

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European foreword

This document (EN 12370:2020) 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of an identical text or by endorsement, at the latest by September 2020, and conflicting national standards shall be withdrawn at the latest by September 2020.

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 supersedes EN 12370:1999.

The significant changes between this document and the previous edition are listed herewith:

— updating of Clause 8.

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Introduction

This document describes a test designed to assess the salt crystallization resistance of natural stones where it is relevant. The test cannot be used in isolation and results will be considered with other physical tests to indicate durability; these include EN 12371 “Determination of frost resistance”.

1 Scope

This document specifies a test method to assess the relative resistance of natural stones with an open porosity of greater than 5 %, measured in accordance with EN 1936, to damage caused by the crystallization of salts. The test is not necessary for low porosity stones.

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 12407, *Natural stone test methods — Petrographic examination*

EN 12440, *Natural stone — Denomination criteria*

3 Terms and definitions

No terms and definitions are listed in this document.

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 https://www.iso.org/obp/ui

4 Symbols

For the purposes of this document, the following symbols apply.

M_d	is the mass of the dried specimen, in grams
M_{d1}	is the mass of the dried specimen with label before first cycle, in grams
M_f	is the mass of the dried specimen with label, after 15 cycles, in grams
ΔM	is the relative difference of masses before and after testing (mass loss or mass gain), in percent.

5 Principle

After drying to constant mass, the specimen is immersed in a solution of sodium sulphate, dried and allowed to cool to room temperature. This cycle is carried out 15 times and the percentage mass change measured.

6 Apparatus

6.1 A ventilated oven capable of maintaining a temperature of (105 ± 5) °C

6.2 A weighing instrument capable of weighing the specimens to ± 0,001 g

6.3 A room or water bath capable of maintaining the temperature of the specimens and solution to (20 ± 0,5) °C

6.4 A 14 % solution of sodium sulphate decahydrate (i.e. 14 g of $Na_2SO_4 \cdot 10\ H_2O$ for every 86 g de-ionized water). The density of this solution at 20 °C is 1 055 kg/m^3.