

**Products and systems for the
protection and repair of concrete
structures - Test methods -
Determination of capillary absorption**

Products and systems for the protection and repair
of concrete structures - Test methods -
Determination of capillary absorption

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13057:2002 sisaldab Euroopa standardi EN 13057:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 12.07.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13057:2002 consists of the English text of the European standard EN 13057:2002.</p> <p>This document is endorsed on 12.07.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<p>Käsitlusala: This European Standard is one of a series dealing with products and systems for the protection and repair of concrete structures. It specifies a method for determining the resistance to water absorption of repair products and systems, as defined in prEN 1504-31.</p>	<p>Scope: This European Standard is one of a series dealing with products and systems for the protection and repair of concrete structures. It specifies a method for determining the resistance to water absorption of repair products and systems, as defined in prEN 1504-31.</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

ICS 91.080.40

Võtmesõnad: area, binders, materials, production, quality control, repair, repairs, sampling, sampling methods, specification (approval), specifications, specimen preparation, structures, surfaces, systems, test specimens, testing, water absorption

ICS 91.080.40

English version

**Products and systems for the protection and repair of concrete
structures - Test methods - Determination of resistance of
capillary absorption**

Produits et systèmes pour la protection et la réparation des
structures en béton - Méthodes d'essai - Détermination de
l'absorption capillaire

Produkte und Systeme für den Schutz und die
Instandsetzung von Betontragwerken - Prüfverfahren -
Bestimmung der kapillaren Wasseraufnahme

This European Standard was approved by CEN on 4 January 2002.

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



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 Principle	4
4 Equipment.....	4
5 Method of test	5
6 Expression of results	6
7 Test report	7
Annex A (normative) Summary of temperatures and humidities for the curing, conditioning and testing of repair products and systems	11
Bibliography	12

Foreword

This document EN 13057:2002 has been prepared by Technical Committee CEN/TC 104 "Concrete and related products", the secretariat of which is held by DIN.

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 November 2002, and conflicting national standards shall be withdrawn at the latest by December 2002.

It has been prepared by sub-committee 8 "Products and systems for the protection and repair of concrete structures", the secretariat of which is held by AFNOR.

This European Standard is one of a series dealing with products and systems for the protection and repair of concrete structures. It gives definitions, requirements, quality control and attestation of conformity for the structural and non-structural repair of concrete structures.

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

1 Scope

This European Standard is one of a series dealing with products and systems for the protection and repair of concrete structures. It specifies a method for determining the resistance to water absorption of repair products and systems, as defined in prEN 1504-3¹.

The method is based on measuring the increase in weight due to capillary absorption of water over a fixed time interval. The weight of water absorbed is expressed as a coefficient, indicating the tendency of the specimen to imbibe water by capillary action without external pressure applied.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 196-1, *Methods of testing cement - Part 1: Determination of strength*.

ISO 556, *Conditioning and testing - Standard atmospheres - Definitions*.

3 Principle

The method of test is applicable to repair grout, mortar or concrete specimens. Hereafter the term mortar specimen refers equally to concrete, unless stated to the contrary.

Resistance to capillary absorption is measured on the trowelled upper face of 100 mm diameter cylindrical specimens of mortar, with a thickness of at least 20 mm or three times the maximum aggregate size, whichever is the greater. As an alternative, the cut face of 100 mm diameter cores of repair mortar may be used.

4 Equipment

4.1 Standard laboratory climate in accordance with the requirements of annex A.

4.2 Moulds for producing specimens made from non absorbent, rigid material, not attacked by cement paste or polymers, of (100 ± 5) mm internal diameter and $(25 \pm 0,5)$ mm depth, or other depth necessary to satisfy the requirement of being three times the maximum aggregate size.

Suitable moulds may be prepared from rigid polypropylene pipe, cut to the appropriate length. It shall be ensured that around the circumference, the length of pipe is within $\pm 0,5$ mm of the target depth of the specimen.

4.3 Flat bottomed, rigid tray and cover, into which the specimens are placed, resting on knife-edge supports to achieve a depth of water immersion of $(2,0 \pm 1,0)$ mm. The area of the tray should be at least twice the area of the test specimen(s) to be stood in the tray with a cover to enclose fully the tray.

4.4 Demineralised water.

4.5 Balance with a minimum resolution of 0,01 g.

4.6 Stopwatch accurate to 1 second.

¹ Under preparation.