

**Influence of cementitious products on
water intended for human consumption
- Test methods - Part 3: Migration of
substances from factory-made
cementitious products**

Influence of cementitious products on water intended
for human consumption - Test methods - Part 3:
Migration of substances from factory-made
cementitious products

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 14944-3:2007 sisaldab Euroopa standardi EN 14944-3:2007 ingliskeelset teksti. Käesolev dokument on jõustatud 18.12.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 14944-3:2007 consists of the English text of the European standard EN 14944-3:2007. This document is endorsed on 18.12.2007 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: This European Standard specifies a method to determine the migration of substances from factory made cementitious products into test waters after contact with the products. This European Standard is applicable to factory made cementitious products, e.g. cement mortar linings to metallic pipes, tanks, concrete pipes etc., intended to be used for the transport and storage of water intended for human consumption, including raw water used for the production of drinking water.	Scope: This European Standard specifies a method to determine the migration of substances from factory made cementitious products into test waters after contact with the products. This European Standard is applicable to factory made cementitious products, e.g. cement mortar linings to metallic pipes, tanks, concrete pipes etc., intended to be used for the transport and storage of water intended for human consumption, including raw water used for the production of drinking water.
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ICS 13.060.20, 67.250, 91.100.10

Võtmesõnad:

ICS 13.060.20; 67.250; 91.100.10

English Version

Influence of cementitious products on water intended for human consumption - Test methods - Part 3: Migration of substances from factory-made cementitious products

Influence des produits à base de ciment sur l'eau destinées à la consommation humaine - Méthodes d'essais - Partie 3 : Migration de substances à partir des produits fabriqués en usine

Einfluss zementgebundener Produkte auf Wasser für den menschlichen Gebrauch - Prüfverfahren - Teil 3: Migration von Substanzen aus fabrikmäßig hergestellten zementgebundenen Produkten

This European Standard was approved by CEN on 13 October 2007.

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 CEN 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 CEN Management Centre has the same status as the official versions.

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Foreword

This document (EN 14944-3:2007) has been prepared by Technical Committee CEN/TC 164 "Water supply", the secretariat of which is held by AFNOR.

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 June 2008, and conflicting national standards shall be withdrawn at the latest by June 2008.

This European Standard is Part 3 of a series dealing with the influence of cementitious and associated non-cementitious products/materials on water intended for human consumption, including:

- Part 1 Influence of factory made cementitious products on organoleptic parameters;
- Part 2¹⁾ Influence of site-applied cementitious materials and associated non-cementitious products/materials on organoleptic parameters;
- Part 3 Migration of substances from factory made cementitious products;
- Part 4²⁾ Migration of substances from site-applied cementitious materials and associated non-cementitious products/materials.

This European Standard will result in one of a series of standards that support appropriate standards.

It describes a test method to produce migration waters for the assessment of inorganic and organic substances.

Annex A, which is normative, describes additional procedures for testing factory made pipes (cement mortar lined and concrete).

Annex B, which is normative, describes additional procedures for testing factory made fittings (cement mortar lined and concrete).

Annex C, which is normative, describes additional procedures for testing factory made storage systems (cement mortar, cement mortar lined and concrete).

Annex D, which is informative, provides examples of typical test pieces and test conditions as a function of S/V ratio.

Annex E, which is informative, describes test arrangements for testing factory made cementitious products.

Annex F, which is normative, describes additional procedures for testing factory made cementitious products at elevated temperature.

Annex G, which is informative, provides a means of discriminating between porous and non-porous coatings on factory made products.

Annex H, which is informative, provides a schematic description of the test (preconditioning and migration) procedure.

Annex I, which is informative, gives recommendations for procedural tests using standard additions (positive controls).

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

1) The work on Part 2 of EN 14944 has not yet begun.

2) The work on Part 4 of EN 14944 has not yet begun.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

With respect to any potential adverse effects of products and materials on the quality of water intended for human consumption, it should be understood that relevant national regulations remain in force until verifiable European acceptance criteria are adopted.

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1 Scope

This European Standard specifies a method to determine the migration of substances from factory made cementitious products into test waters after contact with the products.

This European Standard is applicable to factory made cementitious products, e.g. cement mortar linings to metallic pipes, tanks, concrete pipes etc., intended to be used for the transport and storage of water intended for human consumption, including raw water used for the production of drinking water.

2 Normative references

The following referenced documents are indispensable for the application 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 196-1, *Method of testing cement — Part 1: Determination of strength*

EN 1015-2, *Method of test for mortar for masonry — Part 2: Bulk sampling of mortars and preparation of test mortars*

EN 1015-11, *Methods of test for mortar for masonry - Part 11: Determination of flexural and compressive strength of hardened mortar*

EN 10088-1, *Stainless steels — List of stainless steels*

EN 12350-1, *Testing fresh concrete — Part 1: Sampling*

EN 12390-1, *Testing hardened concrete — Part 1: Shape, dimensions and other requirements for specimens and moulds*

EN 12390-2, *Testing hardened concrete — Part 2: Making and curing specimens for strength tests*

EN ISO 3696, *Water for analytical laboratory use — Specification and test methods (ISO 3696:1987)*

EN ISO 7393-1, *Water quality - Determination of free chlorine and total chlorine - Part 1: Titrimetric method using N, N-diethyl-1,4-phenylenediamine (ISO 7393-1:1985)*

EN ISO 7393-2, *Water quality - Determination of free chlorine and total chlorine - Part 2: Colorimetric method using N, N-diethyl-1, 4-phenylenediamine, for routine control purposes (ISO 7393-2:1985)*

ISO 10523, *Water quality — Determination of pH*

3 Terms and Definitions

For the purpose of this European Standard, the following terms and definitions apply.

3.1

appropriate body

certification body, inspection body or test laboratory, as relevant to a particular requirement

3.2

cementitious product

factory made product containing a cementitious material supplied in the hardened state with a formed surface prior to its incorporation into the construction works

3.3

cementitious material

material that contains a hydraulic cement in sufficient proportion to act as the main binder by forming a hydrate structure that governs the performance of the material