

## **Geosynthetic barriers - Test method for determining the resistance to leaching**

Geosynthetic barriers - Test method for determining the resistance to leaching

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

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| <p>Käesolev Eesti standard EVS-EN 14415:2004 sisaldab Euroopa standardi EN 14415:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 27.08.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p> | <p>This Estonian standard EVS-EN 14415:2004 consists of the English text of the European standard EN 14415:2004.</p> <p>This document is endorsed on 27.08.2004 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> |
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| <p><b>Käsitlusala:</b></p> <p>This European Standard describes a method of testing the resistance to leaching of polymeric or bituminous geosynthetic barriers, and the polymeric component of geosynthetic clay barriers, in hot water (method A), aqueous alkaline liquids (method B) and organic alcohols (method C).</p> | <p><b>Scope:</b></p> <p>This European Standard describes a method of testing the resistance to leaching of polymeric or bituminous geosynthetic barriers, and the polymeric component of geosynthetic clay barriers, in hot water (method A), aqueous alkaline liquids (method B) and organic alcohols (method C).</p> |
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**Võtmesõnad:** alkalis, extraction methods, leaching procedu, leakage water, materials, methods of analysis, plastic sheets, polymers, resistance, sealing, soaking tests, specification (approval), specifications, synthetic fibres, synthetics, testing, textiles, water proof sheetings

ICS 59.080.70

English version

## Geosynthetic barriers - Test method for determining the resistance to leaching

Barrières géosynthétiques - Méthode d'essai pour la détermination de la résistance à la lixiviation

Geosynthetische Dichtungsbahnen - Prüfverfahren zur Bestimmung der Beständigkeit gegen Auslaugen

This European Standard was approved by CEN on 2 February 2004.

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## Foreword

This document (EN 14415:2004) has been prepared by Technical Committee CEN/TC 189, "Geosynthetics", the secretariat of which is held by IBN.

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 2004, and conflicting national standards shall be withdrawn at the latest by November 2004.

This document includes a Bibliography.

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

## Introduction

This European Standard defines a method for testing the behaviour geosynthetic barriers in hot water, aqueous alkaline liquids and organic alcohols, with respect to leaching, visible changes, and tensile properties. Leaching of stabilizers can accelerate the oxidation of the geosynthetic barrier.

The standard does not purport to address all of the safety problems, if any, associated with its use.

## 1 Scope

This European Standard describes a method of testing the resistance to leaching of polymeric or bituminous geosynthetic barriers, and the polymeric component of geosynthetic clay barriers, in hot water (method A), aqueous alkaline liquids (method B) and organic alcohols (method C).

## 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 ISO 291          | <i>Plastics - Standard atmospheres for conditioning and testing (ISO 291:1997)</i>                                                                                   |
| EN ISO 527-1        | <i>Plastics - Determination of tensile properties - Part 1: General principles (ISO 527-1:1993 including Corr 1:1994)</i>                                            |
| EN ISO 527-3        | <i>Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets (ISO 527-3:1995)</i>                                                |
| prEN ISO 10318:2000 | <i>Geosynthetics - Geotextiles, geotextile-related products, geomembranes and geosynthetic clay liners - Terms and their definitions (ISO/DIS 10318:2000)</i>        |
| EN 12226:2000       | <i>Geotextiles and geotextile-related products-General tests for evaluation following durability testing</i>                                                         |
| EN 14030            | <i>Geotextiles and geotextile-related products - Screening test method for determining the resistance to acid and alkaline liquids (ISO/TR 12960:1998, modified)</i> |

## 3 Terms and Definitions

For the purposes of this European Standard, the terms and definitions given in prEN ISO 10318:2000 apply.

## 4 Principle

A sample of geosynthetic barrier is placed in the test liquid for 56 days. Subsequently the sample is recovered from the liquid and changes in properties (mass change, mechanical and visible) are measured in accordance with EN ISO 527.

## 5 Reagents

Following reagents are used:

- Distilled or de-ionized water;
- Saturated  $\text{Ca}(\text{OH})_2$  in accordance with EN 14030;
- A mixture of:
  - 30 volume-% methanol;
  - 30 volume-% 2-propanol (isopropanol);
  - 40 volume-% 1,2-ethanediol (glycol).