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Irish Standard
I.S. EN 13493:2013

Geosynthetic barriers - Characteristics required for use in the construction of solid waste storage and disposal sites

I.S. EN 13493:2013

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Údarás um Chaighdeáin Náisiúnta na hÉireann

English Version

**Geosynthetic barriers - Characteristics required for use in the
construction of solid waste storage and disposal sites**

Barrières géosynthétiques - Caractéristiques requises pour
l'utilisation dans la construction des ouvrages de stockage
et d'enfouissement de déchets solides

Geosynthetische Dichtungsbahnen - Eigenschaften, die für
die Anwendung beim Bau von Deponien und
Zwischenlagern für feste Abfallstoffe erforderlich sind

This European Standard was approved by CEN on 23 May 2013.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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Foreword

This document (EN 13493:2013) has been prepared by Technical Committee CEN/TC 189 “Geosynthetics”, the secretariat of which is held by NBN.

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of an identical text or by endorsement, at the latest by January 2014, and conflicting national standards shall be withdrawn at the latest by January 2014.

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.

This document supersedes EN 13493:2005.

The following technical changes were introduced in comparison with the previous edition:

- The normative references were updated.
- Table 1 was revised.
- “Chemical resistance” was added to Clause 4.
- “Release of dangerous substances” was added to Clause 4.
- Annex A revised: “raw or incoming material” and Tables A.1 to A.3 were added.
- Annex B was revised.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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

Introduction

This European Standard allows manufacturers to describe geosynthetic barriers on the basis of declared values for characteristics relevant to the intended use and if tested to the specified method. It also includes procedures for evaluation of conformity and factory production control.

This European Standard can also be used by designers, end-users and other interested parties as a tool to define relevant and appropriate characteristics for specifications and on-site quality control. It should be emphasised however that not all characteristics and test methods quoted in this standard are suitable for the purpose of on-site quality control.

Tests for some non-mandated characteristics are still under study and will be included when the standard is revised.

The term “product” used in this standard refers to a geosynthetic barrier, including polymeric geosynthetic barriers, clay geosynthetic barriers and bituminous geosynthetic barriers.

This European Standard is part of a group of standards, addressing the requirements for geosynthetic barriers when used in a specific application.

Particular application cases can contain requirements about additional properties and - preferably standardised - test methods, if they are technically relevant and not conflicting with European Standards.

The design life of the product should be determined, since its function may be temporary, as a construction expediency, or permanent, for the lifetime of the structure.

1 Scope

This European Standard specifies the relevant characteristics of geosynthetic barriers, including polymeric geosynthetic barriers, clay geosynthetic barriers and bituminous geosynthetic barriers, when used as fluid barriers in the construction of solid waste storage and solid waste disposal sites, and the appropriate test methods to determine these characteristics.

The intended use of these products is to control the leakage of fluids through the construction.

This document is not applicable to geotextiles or geotextile-related products.

This document provides for the evaluation of conformity of the product to this document.

This document defines requirements to be met by manufacturers and distributors with regard to the presentation of product properties.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 495-5, *Flexible sheets for waterproofing — Determination of foldability at low temperature — Part 5: Plastic and rubber sheets for roof waterproofing*

EN 1109, *Flexible sheets for waterproofing — Bitumen sheets for roof waterproofing — Determination of flexibility at low temperature*

EN 1844, *Flexible sheets for waterproofing — Determination of resistance to ozone — Plastic and rubber sheets for roof waterproofing*

EN 1849-1, *Flexible sheets for waterproofing — Determination of thickness and mass per unit area — Part 1: Bitumen sheets for roof waterproofing*

EN 1849-2, *Flexible sheets for waterproofing — Determination of thickness and mass per unit area — Part 2: Plastic and rubber sheets*

EN 12224, *Geotextiles and geotextile-related products — Determination of the resistance to weathering*

EN 12225, *Geotextiles and geotextile-related products — Method for determining the microbiological resistance by a soil burial test*

EN 12310-1, *Flexible sheets for waterproofing — Part 1: Bitumen sheets for waterproofing — Determination of resistance to tearing (nail shank)*

EN 12311-1, *Flexible sheets for waterproofing — Part 1: Bitumen sheets for roof waterproofing — Determination of tensile properties*

EN 12311-2, *Flexible sheets for waterproofing — Determination of tensile properties — Part 2: Plastic and rubber sheets for roof waterproofing*

EN 13361, *Geosynthetic barriers — Characteristics required for use in the construction of reservoirs and dams*

EN 13362, *Geosynthetic Barriers — Characteristics required for use in the construction of canals*

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