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Geosynthetics — Sampling and preparation of test specimens

Géosynthétiques — Échantillonnage et préparation des éprouvettes

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 9862 was prepared by the European Committee for Standardization (CEN) in collaboration with Technical Committee ISO/TC 221, *Geosynthetics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 9862:1990), which has been technically revised.

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Foreword

This document (EN ISO 9862:2005) has been prepared by Technical Committee CEN/TC 189 "Geosynthetics", the secretariat of which is held by IBN, in collaboration with Technical Committee ISO/TC 221 " Geosynthetics".

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of an identical text or by endorsement, at the latest by August 2005, and conflicting national standards shall be withdrawn at the latest by August 2005.

This document supersedes EN 963:1995.

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

Geosynthetics are produced in many different ways, partly using traditional textile procedures, partly using procedures not commonly recognized as textile procedures. Geosynthetics are defined in prEN ISO 10318.

Geosynthetics are typically supplied in rolls.

Whilst sampling should ensure the best possible statistical significance of the average finding and its coefficient of variation, there are practical limits to the possible distribution of samples and specimens over the entire lot and its single units supplied to a construction site.

1 Scope

This document establishes general principles for the sampling of geosynthetics delivered to construction sites, and for the preparation of test specimens from the samples.

The sampling principles are applicable to geosynthetics supplied in rolls.

NOTE EN ISO 186 may be used for products supplied in sheet form.

The specimen-preparation principles are applicable to all geosynthetics.

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 ISO 10320, *Geotextiles and geotextile-related products — Identification on site (ISO 10320:1999).*

3 Procedure

3.1 Sampling

3.1.1 Selection of rolls

3.1.1.1 For each product type delivered to a construction site, take samples at frequencies as agreed between the parties involved (see annex A).

3.1.1.2 With the exception of tests made in connection with claims, each roll selected shall appear undamaged and the wrapping, if any, shall be intact.

3.1.2 Cutting

3.1.2.1 Information regarding the number of test specimens, their shape and any requirements shall be obtained from the relevant test standard(s) for all tests to be made on the sample.

3.1.2.2 The first two turns of the roll shall not be used for sampling.

3.1.2.3 Cut from the roll over its full width perpendicular to the machine direction (production direction — roll length direction) the length of the sample necessary to obtain all specimens required, distributed in accordance with the principles in this document (see 3.2).

3.1.2.4 Since specimens shall not contain damaged parts as defined in 3.2.4, either such parts shall be avoided in selecting the sample, or the sample shall be cut large enough to obtain the necessary number of acceptable specimens (except for the case specified in 3.1.1.2).

3.1.3 Identification of sample

Identification of samples shall be in accordance with EN ISO 10320.

3.2 Preparation of specimens

3.2.1 Both during and after sampling, care shall be taken to ensure that the physical condition of the sample remains unchanged prior to testing. For example, samples of clay geosynthetic barriers shall be maintained at the moisture content prevailing at the time of sampling.

3.2.2 If the sample is not to be cut into specimens immediately, it shall be kept in a dry, dark place, free from dust, at ambient temperature and protected against chemical and physical changes.

NOTE 1 The sample may be rolled up but preferably not folded.

NOTE 2 GBR-R samples shall be neither rolled nor folded.

3.2.3 For each type of test, the required number of specimens shall be cut from positions evenly distributed over the full width and length of the sample, but not closer than 100 mm to the edge.

3.2.4 Except for specimens for tests to be made in connection with claims (see 3.1.1.2), specimens shall not contain any dirt, irregular areas, creases, holes or other visible defects of accidental origin produced subsequent to manufacture.

3.2.5 Unless otherwise required in a test standard, for the same type of test, the same longitudinal or transverse position of two or more specimens shall be avoided. If unavoidable (e.g. due to narrow roll width) a note to this effect shall be included in the sampling report.

3.2.6 Except when additional tests are required, the specimens shall be cut along the machine and cross-machine directions. When the test procedure calls for the specimen to be marked with the machine direction, the marking indicating the machine direction on the sample shall be transferred to the specimen, or the specimen shall be kept separate in such a way that there can be no risk of a misunderstanding.

3.2.7 When cutting test specimens reference shall be made to the particular test standards for which the specimens are being prepared. In tests where accuracy of dimensions is of special importance, the specimens may be cut to an oversize and then cut or frayed to the exact dimensions after conditioning.

3.2.8 Appropriate identification markings on the sample shall be transferred to all specimens to ensure correct specimen identification.

3.2.9 If the cutting causes fragments of the geosynthetic to become loose, or if accidental fraying occurs, all loose fragments shall be kept with the specimen until the test is carried out. If the loosening of fragments cannot be avoided and this is likely to influence the test result, the fact that loosening has occurred shall be reported in the sampling report as well as in the test report.

3.2.10 The specimens shall be kept in a dry, dark place free from dust, at ambient temperature and protected against chemical and physical changes until the test is performed.

4 Sampling report

The sampling report shall include the following particulars:

a) statement that the sampling and preparation of specimens was performed in accordance with this document;

b) details of any special observations made during the selection, sampling or preparation of specimens, such as:

- the number and type of defects;
- loosening of fragments from the geosynthetic;
- the necessity for taking specimens for the same test in only one longitudinal or transverse position;

c) details of any deviation from the specified sampling procedure;

d) date of cutting of the sample, and reference number(s) of the rolls selected.