

Geotextiles and geotextile-related products — Determination of pullout resistance in soil

The European Standard EN 13738:2004 has the status of a
British Standard

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee B/553, Geosynthetics, which has the responsibility to:

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Geotextiles and geotextile-related products - Determination of pullout resistance in soil

Géotextiles et produits apparentés aux géotextiles -
Détermination de la résistance à l'arrachement du sol

Geotextilien und geotextilverwandte Produkte -
Bestimmung des Herausziehwiderstandes aus dem Boden

This European Standard was approved by CEN on 10 September 2004.

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 Central Secretariat or to any CEN member.

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Foreword

This document (EN 13738:2004) 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of an identical text or by endorsement, at the latest by May 2005, and conflicting national standards shall be withdrawn at the latest by May 2005.

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.

1 Scope

This document specifies a method for determining the resistance of geotextiles and geotextile-related products to pullout from soil using a laboratory pullout box. The goal of the procedure is to provide data relating to the development of friction on materials used primarily for soil reinforcement.

The test method described is a performance test procedure to determine the fitness for use of geotextiles and geotextile-related products intended to be used in a given application.

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 963, *Geotextiles and geotextile-related products - Sampling and preparation of test specimens*

prEN ISO 10318:2000, *Geosynthetics - Geotextiles, geotextile-related products, geomembranes and geosynthetic clay liners - Terms and their definitions (ISO/DIS 10318:2000)*

ISO 554, *Standard atmospheres for conditioning and/or testing - Specifications*

3 Terms and definitions

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

3.1 pullout force

force required to pull a geotextile or a geotextile-related product out of the soil during a pullout test

3.2 pullout resistance

pullout force per width of geotextile or geotextile-related product measured at a specified rate of displacement

3.3 peak pullout resistance

maximum pullout resistance measured during a pullout test

3.4 wire gauge

displacement gauge consisting of an inextensible wire attached to the geotextile or geotextile-related product and monitored by connection to a dial extensometer, or electronic displacement transducer

3.5 normal stress (σ_n)

vertical stress applied to the specimen

4 Principle

A horizontal force is applied to a specimen embedded between two layers of soil and the force required to pull the specimen out of the soil is recorded.

The pullout resistance is calculated by dividing the pullout force by the specimen width.

The test can be performed while applying vertical stress to the top soil layer.