



SLOVENSKI STANDARD
oSIST prEN 13719:2014
01-december-2014

Geotekstilije in geotekstilijam sorodni proizvodi - Ugotavljanje učinkovitosti dolgotrajne zaščite geotekstilij v primeru geotekstilnih ovir

Geotextiles and geotextile-related products - Determination of the long term protection efficiency of geotextiles in contact with geosynthetic barriers

Geotextilien und geotextilverwandte Produkte - Bestimmung der langfristigen Schutzwirksamkeit von Geotextilien im Kontakt mit geosynthetischen Dichtungsbahnen

Géosynthétiques - Détermination de l'efficacité de protection à long terme des géosynthétiques en contact avec les géomembranes

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59.080.70 Geotekstilije Geotextiles

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English Version

Geosynthetics - Determination of the long term protection efficiency of geosynthetics in contact with geosynthetic barriers

Géosynthétiques - Détermination de l'efficacité de protection à long terme des géosynthétiques en contact avec les géomembranes

Geokunststoffe - Bestimmung der langfristigen Schutzwirksamkeit von Geokunststoffen im Kontakt mit geosynthetischen Dichtungsbahnen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 189.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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prEN 13719:2014 (E)

Foreword

This document (prEN 13719:2014) has been prepared by Technical Committee CEN/TC 189 “Geosynthetics”, the secretariat of which is held by NBN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13719:2002.

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1 Scope

This European Standard is an index test used to determine the efficiency with which a geosynthetic product will protect a geosynthetic barrier or other contact surface against the mechanical long term effects of static point loads.

The test is performed on the geosynthetic product in isolation. It measures the strains experienced by a geosynthetic product in contact with a deformable pad.

NOTE Other properties relevant to the protection of geosynthetic barriers against differing actions are covered by other standards, e.g. dynamic perforation is covered in EN ISO 13433.

A related performance test simulating specific site conditions is described in Annex B (informative).

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 ISO 9862, *Geotextiles and geotextile-related products - Sampling and preparation of test specimens*

EN ISO 10320, *Geotextiles and geotextile-related products - Identification on site (ISO 1032)*

EN 12588, *Lead and lead alloys - Rolled lead sheet for building purposes*

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

ISO 7619, *Rubber - Determination of indentation hardness by means of pocket hardness meters*

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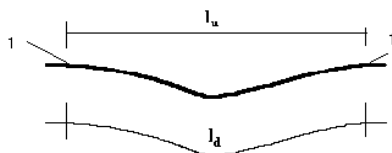
3 Terms and definitions

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

3.1

local strain

difference between the deformed length (l_d) of a straight line between two points on either side of a deformation and the undeformed length (l_u) between the same two points divided by the undeformed length (see Figure 1)



Key

1 Limit of deformation

Figure 1 – Local strain measurement of a single deformation

4 Principle

Load is applied through a simulated standard aggregate on to the geosynthetic specimen, which is supported on a simulated standard subgrade for a standard time. The local strain in the lower surface of the geosynthetic is measured and used to determine the protection efficiency.

5 Apparatus (see also Figure 2)

5.1 Cylinder

A smooth sided steel cylinder having an internal diameter between 300 mm and 500 mm.

NOTE The cylinder can be in sections bolted together at flanged joints to facilitate setting up and dismantling.

5.2 Lower steel plate

20 mm minimum thickness mild steel plate with a diameter 4 mm less than that of the cylinder with a tolerance of + 1 mm to allow it to vertically move freely within the cylinder. The lower steel plate shall be supported in a way that the effective normal stress can be measured to an accuracy of 1%.

5.3 Dense rubber pad

A (25 + 1) mm thickness rubber pad having a diameter similar to the lower steel plate and a hardness of (50 + 5) Shore A, determined in accordance with ISO 7619. The rubber pad should be checked for hardness on a grid no greater than 20 mm at intervals not exceeding twelve months. If the pad is outside the hardness tolerance at any location or exhibits signs of permanent mechanical damage, it shall not be used.

5.4 Metal sheet

A circular soft sheet metal disc shall be used. It shall have a thickness of (1,3 ± 0,1) mm, grade 3 lead to EN 12588 or similar, with deformation characteristics and thickness in accordance with the requirements of annex A and with a diameter similar to that of the lower steel plate

Prior to incorporation in the test the metal disc shall have a flatness such that a gauge of 0,05 mm cannot be inserted between the disc and a straight edge placed across any diameter.

5.5 Simulated standard aggregate

20 mm diameter steel balls to a minimum depth of 150 mm. The balls shall not show any visible signs of damage

5.6 Applied stress

Means of constantly applying a uniform normal stress up to 1400 kN/m² as registered by the load cells or pressure gauges beneath the lower steel plate over a period of up to 1000 h.

5.7 Timing device

Means of timing the duration of the test accurate to + 1 % of the test duration.

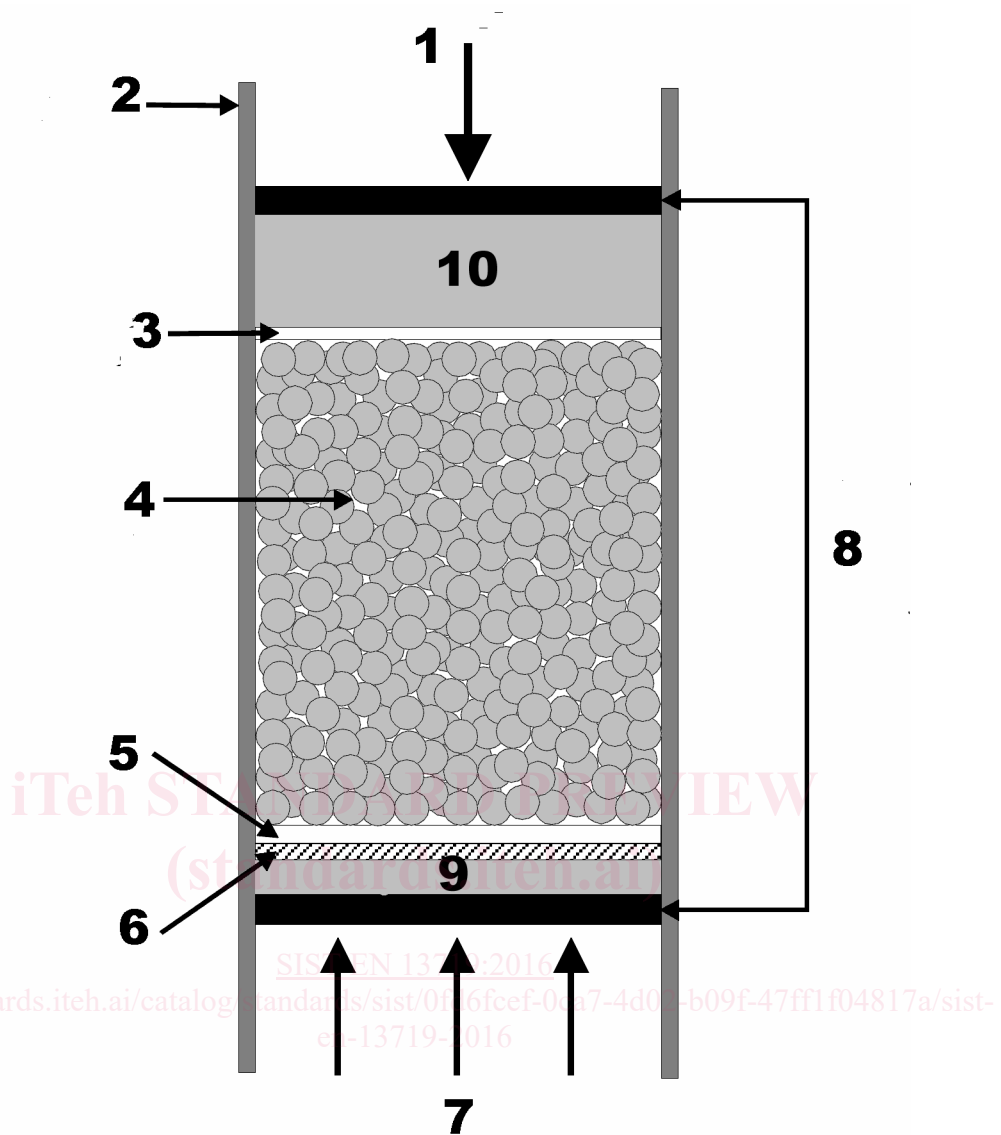
5.8 Deformation measurement

Means of measuring the deformed length and undeformed length of a depression in the lead plate. Simultaneous measurement horizontally and vertically to an accuracy of 0,01 mm. If a dial gauge is to be used the tip in contact with the metal sheet shall have a diameter of (2,0 + 0,2) mm.

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**Key**

- 1 Applied load
- 2 Cylinder
- 3 geotextile separator
- 4 Simulated standard aggregate
- 5 Geosynthetic test specimen
- 6 Metal sheet
- 7 Load cells
- 8 Upper and lower steel plates
- 9 Dense rubber pad
- 10 Sand

Figure 2 – Test apparatus