



SLOVENSKI STANDARD SIST EN ISO 25619-1:2009

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SIST EN 1897:2001

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Geosynthetics - Determination of compression behaviour - Part 1: Compressive creep properties (ISO 25619-1:2008)

Geokunststoffe - Bestimmung des Druckverhaltens - Teil 1: Eigenschaften des Druckkriechens (ISO 25619-1:2008)

Géosynthétiques - Détermination du comportement en compression - Partie 1: Propriétés de fluage en compression (ISO 25619-1:2008)

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

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ICS 59.080.70

Supersedes EN 1897:2001

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Geosynthetics - Determination of compression behaviour - Part 1: Compressive creep properties (ISO 25619-1:2008)

Géosynthétiques - Détermination du comportement en
compression - Partie 1: Propriétés de fluage en
compression (ISO 25619-1:2008)

Geokunststoffe - Bestimmung des Druckverhaltens - Teil 1:
Eigenschaften des Druckkriechens (ISO 25619-1:2008)

This European Standard was approved by CEN on 29 November 2008.

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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 Management Centre has the same status as the official versions.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN ISO 25619-1:2008) has been prepared by Technical Committee CEN/TC 189 "Geosynthetics", the secretariat of which is held by NBN, 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of an identical text or by endorsement, at the latest by June 2009, and conflicting national standards shall be withdrawn at the latest by June 2009.

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 1897:2001.

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 EC Directive(s).

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

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INTERNATIONAL
STANDARD

ISO
25619-1

First edition
2008-12-15

**Geosynthetics — Determination of
compression behaviour —**

**Part 1:
Compressive creep properties**

*Géosynthétiques — Détermination du comportement en
compression*

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Partie 1: Propriétés de fluage en compression
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Reference number
ISO 25619-1:2008(E)

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ISO 25619-1:2008(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 25619-1 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 189, *Geosynthetics*, in collaboration with ISO Technical Committee ISO/TC 221, *Geosynthetics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 25619-1 cancels and replaces EN 1897:2001, which has been technically revised. The following technical changes have been introduced:

- normative references have been updated; [SIST EN ISO 25619-1:2009](https://standards.iteh.ai/catalog/standards/sist/0b7fa1ea-060e-44c9-bf59-7a41b329fe31/sist-en-iso-25619-1-2009)
- definitions, in particular with regard to compressive creep strain (ϵ_{cc}), have been clarified;
- omission of conditioning of the test specimen has been allowed under specific circumstances, and the circumstances under which immersed specimens should be tested have been specified;
- a requirement has been included that the stress applied by the top plate on the specimen shall not exceed 2 kPa;
- calculation of compressive creep strain has been included in addition to total compressive strain; a requirement has been included that it be referred to in the test report and that a plot of compressive creep strain versus log (time) be provided (for both test methods).

ISO 25619 consists of the following parts, under the general title *Geosynthetics — Determination of compression behaviour*:

- *Part 1: Compressive creep properties*
- *Part 2: Determination of short-term compression behaviour.*

Geosynthetics — Determination of compression behaviour —

Part 1: Compressive creep properties

1 Scope

This part of ISO 25619 specifies index test methods for determining the compressive creep properties of geosynthetic products. The test specimens are subjected either to normal compressive loading or to a combination of normal compressive loading and shear loading.

The test method with a normal load only (see Clause 5) is the standard method.

The test method in which both normal and shear loads are applied (see Clause 6) is intended for products that are sensitive to shear failure, i.e. which have a columnar or cusped structure.

The tests are carried out on dry specimens or on specimens immersed in water. The test is intended to be carried out with the specimen immersed in water when any part of the geosynthetic product contains a hydrophilic polymer.

2 Normative references

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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.

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

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 9862, *Geosynthetics — Sampling and preparation of test specimens*

ISO 9863-1, *Geosynthetics — Determination of thickness at specified pressures — Part 1: Single layers*

ISO 10318, *Geosynthetics — Terms and definitions*

3 Terms and definitions

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

3.1

thickness

d

distance between the two rigid plates in contact with the specimen at any stage of the test

See Figures 1 and 2.

NOTE Thickness is measured in millimetres.

ISO 25619-1:2008(E)**3.2****initial thickness** d_i

thickness of the specimen under an applied normal stress of 2 kPa

NOTE Initial thickness is measured in millimetres, in accordance with ISO 9863-1.

3.3**initial compressed thickness** d_0

thickness measured 1 min after loading (normal loading) or 4 min after loading (normal and shear loading)

3.4**total compressive strain** ε

time-dependent change in thickness

NOTE Total compressive strain is expressed as a percentage of the initial thickness (d_i).**3.5****compressive creep strain** ε_{cc} time-dependant change in thickness of a material subjected to a constant compressive load (after reaching the initial compressed thickness, d_0 , of the specimen)

NOTE Compressive creep strain is expressed as a percentage of the initial compressed thickness.

3.6**compressive creep collapse**

occurrence of a sudden increase in the speed of change of thickness of a specimen subjected to a constant compressive load

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4 Test specimens**4.1 Sampling**

Specimens shall be taken in accordance with ISO 9862.

4.2 Number and dimensions of test specimens

Cut two specimens from the test sample for each test load; a new specimen is required for each test.

Each specimen shall satisfy the following criteria with regard to dimensions:

- the specimen shall be square and have a minimum size of 100 mm × 100 mm (see Figures 1 and 2); if the specimen has a structure in which loading is resisted at defined points or areas, then the loading plate shall cover at least three complete points or areas in both directions (see Figure 3);
- specimens shall be cut with the sides parallel to the length and width of the sample.