Geotextiles and geotextile-related products - Determination of tensile creep and creep rupture behaviour (ISO 13431:2024)

EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
ESTONIAN CENTRE FOR STANDARDISATION AND ACCREDITATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 13431:2024 sisaldab Euroopa standardi EN ISO 13431:2024 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 13431:2024 consists of the English text of the European standard EN ISO 13431:2024.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 14.08.2024.	Date of Availability of the European standard is 14.08.2024.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 13431

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Supersedes EN ISO 13431:1999

English Version

Geotextiles and geotextile-related products - Determination of tensile creep and creep rupture behaviour (ISO 13431:2024)

Géotextiles et produits apparentés - Détermination du comportement au fluage en traction et de la rupture au fluage en traction (ISO 13431:2024)

Geotextilien und geotextilverwandte Produkte - Bestimmung des Zugkriech- und des Zeitstandbruchverhaltens (ISO 13431:2024)

This European Standard was approved by CEN on 6 August 2024.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN ISO 13431:2024) has been prepared by Technical Committee ISO/TC 221 "Geosynthetics" in collaboration with 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 February 2025, and conflicting national standards shall be withdrawn at the latest by February 2025.

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

This document supersedes EN ISO 13431:1999.

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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Endorsement notice

The text of ISO 13431:2024 has been approved by CEN as EN ISO 13431:2024 without any modification.

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 221, *Geosynthetics,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 189, *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 13431:1999), which has been technically revised.

The main changes are as follows:

— normative references have been updated;

— units have been added in the Notes to entry in Clause 3;

— the possibility of other test conditions, upon agreement by parties, have been added in 4.2, 5.3.3, 5.3.5;

— conditions for lateral contraction have been added in 4.3.3;

— figure keys have been slightly modified;

— charts of the recorded temperature and humidity have been added to the test report for the duration of tests in Clause 8.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html

Geotextiles and geotextile-related products — Determination of tensile creep and creep rupture behaviour

1 Scope

This document specifies a method for determining the tensile creep and creep rupture behaviour of geotextiles and geotextile-related products in an unconfined situation.

Application of this document is limited to products and applications where the risk of collapse of a structure due to premature failure or to strain and time variation of the reinforcement under constant load is of essential importance.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 9862, *Geosynthetics — Sampling and preparation of test specimens*

ISO 10318-1, *Geosynthetics — Part 1: Terms and definitions*

ISO 10319, *Geotextiles — Wide-width tensile test*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10318-1 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
tensile strength
maximum load per unit width, developed in a specific material subjected to an external tensile load, when measured in accordance with ISO 10319

Note 1 to entry: Tensile strength is expressed in kilonewtons per metre (kN/m).

3.2
pre-tension force
F_p
tensile force, equal to 1 % of the *tensile strength* (3.1), but not more than 10 % of the *tensile creep load* (3.7), applied to the specimen to enable the gauge length and strain zero to be determined under reproducible conditions

Note 1 to entry: The pre-tension force is expressed in kilonewtons (kN).