International Standard

ISO 13431

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

Géotextiles et produits apparentés — Détermination du comportement au fluage en traction et de la rupture au fluage en traction

Second edition
2024-08

Reference number
ISO 13431:2024(en)

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Published in Switzerland

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Foreword

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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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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

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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).

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