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Geotextiles and geotextile-related products - Strength of internal structural junctions - Part 1: Geocells (ISO 13426-1:2019)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

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## Geotextiles and geotextile-related products - Strength of internal structural junctions - Part 1: Geocells (ISO 13426-1:2019)

Géotextiles et produits apparentés - Résistance des liaisons de structures internes - Partie 1: Géosynthétiques alvéolaires (ISO 13426-1:2019)

Geotextilien und geotextilverwandte Produkte - Festigkeit produktinterner Verbindungen - Teil 1: Geozellen (ISO 13426-1:2019)

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**EN ISO 13426-1:2019 (E)**

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## **European foreword**

This document (EN ISO 13426-1:2019) 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of an identical text or by endorsement, at the latest by June 2020, and conflicting national standards shall be withdrawn at the latest by June 2020.

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.

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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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 13426-1:2019 has been approved by CEN as EN ISO 13426-1:2019 without any modification.

# INTERNATIONAL STANDARD

# ISO 13426-1

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## Geotextiles and geotextile-related products — Strength of internal structural junctions —

### Part 1: Geocells

*Géotextiles et produits apparentés — Résistance des liaisons de  
structures internes —*

*Partie 1: Géosynthétiques alvéolaires*



Reference number  
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# ISO 13426-1:2019(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.

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 documents 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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 221, *Geosynthetics*.

This second edition cancels and replaces the first edition (ISO 13426-1:2003), which has been technically revised. The main changes compared to the previous edition are as follows:

— [Clauses 2, 5, 6, 7, 8](#) and all the figures have been technically revised.

A list of all parts in the ISO 13426 series can be found on the ISO website.

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](http://www.iso.org/members.html).

## Introduction

Geocells are geotextile-related products composed of single strips interconnected in several possible ways (extrusion, thermal bonding, gluing, hot melt, stitching, etc.) to form a panel of adjacent cells, where generally the contact between two elements occurs along lines or in specific points, and not uniformly on the whole surface. These lines or points are referred to as "junctions".

A geocell junction can fail in four different ways:

- 1) by shear (see [Figure 1](#)): when failure is caused by a force parallel to the junction itself;
- 2) by peeling or delamination (see [Figure 2](#)): when failure is caused by a force, normal to the junction, which separates the cells from each other at one edge of the junction;
- 3) by splitting (see [Figure 3](#)): when a force, normal to the junction, pulls away the two cells adjacent to the junction;
- 4) by local overstressing (see e.g. [Figure 4](#): geocells secured with pins): when the fixation element locally overstresses the junction, leading to a compression, shear or peel failure.

NOTE This can be considered as a performance property, in the same way as a tensile test on seams/joints.

It is therefore impossible to define one single testing method for measuring the junction strength of geocells. Hence this document includes the principles for testing the four failure mechanisms explained above. These principles should be adapted to each single product. In order to avoid confusion about the interpretation of figures, reference should be made to the exact test method in test reports and data sheets, e.g. ISO 13426-1:2019, 4.1.



# Geotextiles and geotextile-related products — Strength of internal structural junctions —

## Part 1: Geocells

### 1 Scope

This document describes index test methods for the determination of the strength of internal structural junctions of geocells under different loading conditions.

### 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 7500-1, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*

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

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**