



**International
Standard**

ISO 13426-2

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

**Part 2:
Geocomposites**

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

Partie 2: Géocomposites

**Second edition
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Contents

	Page
Foreword.....	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
5 Conditioning atmosphere	3
6 Test specimen	4
6.1 Number.....	4
6.2 Sampling.....	4
6.3 Dimension.....	4
7 Apparatus	6
7.1 Tensile testing machine.....	6
7.2 Clamps.....	6
8 Test procedure	6
8.1 Setting up the machine.....	6
8.2 Insertion of test specimen in the jaws.....	6
8.3 Procedure — Shear and peel tests.....	6
9 Calculations	7
10 Test report	10

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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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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, *Geotextiles and geotextile-related products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 13426-2:2005), which has been technically revised.

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The main changes are as follows:

- In [Clause 9](#), the calculation of the junction strength for tests with multiple peaks has been modified.

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.

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

Part 2: Geocomposites

1 Scope

This document describes index tests for determining the strength of the internal structural junctions under different loading conditions of all geocomposites and of clay geosynthetic barriers.

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 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*

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

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 failure

point at which a geosynthetic ceases to be functionally capable of its intended use

Note 1 to entry: A material can be considered to have failed without rupture.

3.2 geocomposite

manufactured, assembled material using at least one geosynthetic product among the components, used in contact with soil and/or other materials in geotechnical and civil engineering applications

3.3 junction

point or line where two of the geosynthetics components are connected

3.4

junction strength

peak load attained during the test, reported to the unit width of the product

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

3.5

peel test

tensile test where two components of a *geocomposite* (3.2) are separately clamped and one component is peeled away from the other

3.6

rupture

breaking or tearing apart of a geosynthetic

3.7

shear test

tensile test where two components of a *geocomposite* (3.2) are separately clamped and the *failure* (3.1) occurs along the plane of the product

4 Principle

Specimens are tested to measure the resistance of the junctions to different states of stress.

The tests performed for geocomposites are as follows:

- **Method A (shear test):** After cutting a test specimen of wide width, one of the two geosynthetics making the junction is delaminated from the other for a certain length at each opposed edge, enough to ensure a good clamping (see [Figure 1](#)). The delaminated portion is mounted in a clamp of a tensile testing machine, while the other geosynthetic at the opposite edge of the specimen is mounted in the other clamp. The delaminated portion that is not inserted in the clamp shall not interfere with the clamp during the test, and it shall be cut in case it cannot be bent. The specimen is tested at a constant rate of extension, until shear failure of the junction or tensile failure of one of the geosynthetics occurs. The corresponding tensile shear resistance is measured and recorded.
- **Method B (peel test):** After cutting a test specimen of wide width, one of the two geosynthetics making the junction is delaminated from the other for a certain length at one edge, enough to ensure a good clamping (see [Figure 2](#)). The delaminated portions of the two geosynthetics are each mounted in one clamp of a tensile testing machine. The specimen is tested at a constant rate of extension, until failure occurs. The corresponding peeling resistance is measured and recorded.