
**Geosynthetics — Determination of
friction characteristics —**

**Part 1:
Direct shear test**

*Géosynthétiques — Détermination des caractéristiques de
frottement —*

Partie 1: Essai de cisaillement direct





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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 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).

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For an explanation on 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 the following URL: 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 12957-1:2005), which has been technically revised. The main changes compared to the previous edition are as follows:

- introduction of the possibility to test the shear between two geosynthetics;
- introduction of the possibility to test soil different from the standard sand.

A list of all parts in the ISO 12957 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.

Geosynthetics — Determination of friction characteristics —

Part 1: Direct shear test

1 Scope

This document specifies an index test method to determine the friction characteristics of geosynthetics in contact with a standard sand as described in EN 196-1, i.e. with a specified density and moisture content, under a normal stress and at a constant rate of displacement, using a direct shear apparatus.

The same testing procedure can be used with any type of soil with the density and moisture content that are required to evaluate the performance under specific conditions or with another geosynthetic under a normal stress and at a constant rate of displacement, using a direct shear apparatus.

The procedure can also be used for testing 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 9862, *Geosynthetics — Sampling and preparation of test specimens*

3 Terms, definitions and symbols

For the purposes of this document, the following terms and definitions apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 relative displacement

s

displacement of the sand, soil or other geosynthetic relative to the specimen during shearing

Note 1 to entry: Relative displacement is expressed in millimetres (mm).

3.2 normal force

N

constant vertical force applied to the specimen

Note 1 to entry: Normal force is expressed in kilonewtons (kN).