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**BS EN ISO 13427:2014**



**BSI Standards Publication**

# **Geosynthetics — Abrasion damage simulation (sliding block test) (ISO 13427:2014)**

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The UK participation in its preparation was entrusted to Technical Committee B/553, Geotextiles and geomembranes.

A list of organizations represented on this committee can be obtained on request to its secretary.

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© The British Standards Institution 2015. Published by BSI Standards Limited 2015

ISBN 978 0 580 73853 1

ICS 59.080.70

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 January 2015.

#### **Amendments issued since publication**

Date	Text affected
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## EUROPÄISCHE NORM

December 2014

ICS 59.080.70

Supersedes EN ISO 13427:1998

English Version

## Geosynthetics - Abrasion damage simulation (sliding block test) (ISO 13427:2014)

Géosynthétiques - Simulation de l'endommagement par  
abrasion (essai du bloc glissant) (ISO 13427:2014)

Geokunststoffe - Simulation von Scheuerbeschädigungen  
(Gleitblockprüfung) (ISO 13427:2014)

This European Standard was approved by CEN on 13 September 2014.

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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## Foreword

This document (EN ISO 13427:2014) 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of an identical text or by endorsement, at the latest by June 2015, and conflicting national standards shall be withdrawn at the latest by June 2015.

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

This document supersedes EN ISO 13427:1998.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 13427:2014 has been approved by CEN as EN ISO 13427:2014 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 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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 221, *Geosynthetics*.

This second edition cancels and replaces the first edition (ISO 13427:1998), which has been technically revised.

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# Geosynthetics — Abrasion damage simulation (sliding block test)

## 1 Scope

This International Standard specifies a test method used for the determination of the resistance of geosynthetics to abrasion using a sliding block, whereby after abrasion the loss in tensile properties is determined.

This test method is applicable to all geosynthetics used in the construction of railways.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 6344-2, *Coated abrasives — Grain size analysis — Part 2: Determination of grain size distribution of macrogrits P12 to P220*

EN 12226, *Geosynthetics — General tests for evaluation following durability testing*

## 3 Terms and definitions

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

### 3.1

#### **abrasion**

wearing away of any part of a material by rubbing against another surface

## 4 Principle

A test specimen, mounted on a fixed platform, is rubbed by an abradant with specified surface characteristics. Under controlled conditions of pressure and abrasive action, the abradant is moved along on a horizontal axis with a uniaxial motion. Resistance to abrasion is expressed as the percentage retained tensile strength of the test specimen.

## 5 Apparatus

### 5.1 Abrasion tester

The abrasion tester (see [Figure 1](#)) shall consist of the following essential parts:

#### a) **Balanced head and block assembly**

The assembly shall consist of two parallel, smooth plates, 50 mm × 200 mm, one of which moves with a reciprocating motion. The frequency of the reciprocating plate shall be adjustable to a maximum of 90 double strokes per min. The stroke length shall be 25 ± 1 mm. The second plate is rigidly supported by a double-lever assembly to provide free movement in a direction perpendicular to