

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

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EUROPEAN STANDARD

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NORME EUROPÉENNE

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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)

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

## 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of an identical text or by endorsement, at the latest by June 2015, and conflicting national standards shall be withdrawn at the latest by June 2015.

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### 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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# 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