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TEXTILES - TEAR PROPERTIES OF FABRICS - PART 3: DETERMINATION OF TEAR FORCE OF WING-SHAPED TEST SPECIMENS (SINGLE TEAR METHOD) (ISO 13937-3:2000)

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Textiles - Tear properties of fabrics - Part 3: Determination of tear force of wing-shaped test specimens (Single tear method) (ISO 13937-3:2000)

Textiles - Propriétés de déchirement des étoffes - Partie 3: Détermination de la force de déchirure des éprouvettes croissants (Méthode de la déchirure unique) (ISO 13937-3:2000)

Textilien - Weiterreißeigenschaften von textilen Flächengebilden - Teil 3: Bestimmung der Weitereißkraft mit dem Flügel-Weiterreißversuch (einfacher Weitereißversuch) (ISO 13937-3:2000)

This European Standard was approved by CEN on 2 July 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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Foreword

The text of EN ISO 13937-3:2000 has been prepared by Technical Committee CEN/TC 248 "Textiles and textile products", the secretariat of which is held by BSI, in collaboration with Technical Committee ISO/TC 38 "Textiles".

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of an identical text or by endorsement, at the latest by October 2000, and conflicting national standards shall be withdrawn at the latest by October 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

EN ISO 13937 has been prepared as a part of several test methods for the determination of certain mechanical properties of textiles using mainly tensile-testing machines, e.g. tensile properties, seam tensile properties, tear properties, seam slippage. Test requirements for these standards agree where appropriate. The results obtained by one of the methods should not be compared with those obtained by other methods. Annex D lists test methods standardized in this context.

EN ISO13937 specifies methods for the determination of tear force of fabrics. Part 1 describes a ballistic pendulum method, parts 2 to 4 describe methods using tensile-testing machines.

1 Scope

This Part of EN ISO 13937 describes a single tear method to determine fabric tear force, known as the wing test using a test specimen cut to form two wings for clamping inclined at a defined angle to the thread direction. The tear force measured is the force required to propagate a previously started tear.

The test is mainly applicable to woven textile fabrics. It may be applicable to fabrics produced by other techniques. Due to the clamping of the specimen wings inclined to the threads to be torn the test can be used for most types of fabrics without causing a transfer of tear and it is less susceptible to withdrawal of threads than other tear tests.

In general the method is not applicable to knitted fabrics, woven elastic fabrics and nonwovens, to which the trapezoidal test method is preferably applied (Note 2).

The method only allows the use of constant-rate-of-extension (CRE) testing machines.

NOTE 1: For other tear test methods using tensile-testing machines part 2 of EN ISO 13937 describes a method known as the trouser test and part 4 the tongue test method. Part 1 of EN ISO 13937 describes the ballistic pendulum (Elmendorf) method.

NOTE 2: For trapezoidal test methods, see ISO 9073-4 for nonwovens or ISO 4674 for coated fabrics.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 139	Textiles - Standard atmospheres for conditioning and testing
ISO 7500-1	Metallic materials - Verification of static uniaxial testing machines - Part 1 - Tensile testing machines
ISO 10012-1	Quality assurance requirements for measuring equipment - Part 1: Metrological confirmation system for measuring equipment