



SLOVENSKI STANDARD
SIST EN ISO 12945-2:2000
01-november-2000

**Tekstilije - Ugotavljanje nagnjenja tekstilij k površinskemu razvlaknjanju in pilingu
- 2. del: Prilagojena Martindalova metoda (ISO 12945-2:2000)**

Textiles - Determination of fabric propensity to surface fuzzing and to pilling - Part 2:
Modified Martindale method (ISO 12945-2:2000)

Textilien - Bestimmung der Neigung von textilen Flächengebilden zur Flusenbildung auf
der Oberfläche und der Pillingneigung Teil 2: Modifiziertes Martindale-Verfahren (ISO 12945
-2:2000)

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Textiles - Détermination de la propension des étoffes à l'ébouriffage en surface et au
boulochage - Partie 2: Méthode Martindale modifiée (ISO 12945-2:2000)

Ta slovenski standard je istoveten z: EN ISO 12945-2:2000

ICS:

59.080.30 Tkanine Textile fabrics

SIST EN ISO 12945-2:2000 en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 12945-2

July 2000

ICS 59.080.10

English version

Textiles - Determination of fabric propensity to surface fuzzing
and to pilling - Part 2: Modified Martindale method (ISO 12945-
2:2000)

Textiles - Détermination de la propension des étoffes à
l'ébouriffage en surface et au boulochage - Partie 2:
Méthode Martindale modifiée (ISO 12945-2:2000)

Textilien - Bestimmung der Neigung von textilen
Flächengebilden zur Flusenbildung auf der Oberfläche und
der Pille neigung Teil 2: Modifiziertes Martindale-Verfahren
(ISO 12945-2:2000)

This European Standard was approved by CEN on 3 June 2000.

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.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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EN ISO 12945-2:2000

Foreword

The text of the International Standard ISO 12945-2:2000 has been prepared by Technical Committee ISO/TC 38 "Textiles" in collaboration with Technical Committee CEN/TC 248 "Textiles and textile products", the secretariat of which is held by BSI.

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 January 2001, and conflicting national standards shall be withdrawn at the latest by January 2001.

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.

Endorsement notice

The text of the International Standard ISO 12945-2:2000 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

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Annex ZA (normative)
Normative references to international publications
with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 139	1973	Textiles – Standard atmospheres for conditioning and testing	EN 20139	1992
ISO 12947-1	1998	Textiles – Determination of abrasion resistance of fabrics by the Martindale method – Part 1: Martindale abrasion testing apparatus	EN ISO 12947-1	1998

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INTERNATIONAL STANDARD

ISO
12945-2

First edition
2000-07-01

Textiles — Determination of fabric propensity to surface fuzzing and to pilling —

Part 2: Modified Martindale method

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*Textiles — Détermination de la propension des étoffes à l'ébouriffage en
surface et au boulochage —*

Partie 2: Méthode Martindale modifié

SIST EN ISO 12945-2:2000

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Reference number
ISO 12945-2:2000(E)

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Printed in Switzerland

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ISO 12945-2:2000(E)

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 12945 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 12945-2 was prepared by Technical Committee ISO/TC 38, *Textiles*.

ISO 12945 consists of the following parts, under the general title *Textiles — Determination of fabric propensity to surface fuzzing and to pilling*:

— Part 1: *Pilling box method*

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— Part 2: *Modified Martindale method*

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— Part 3: *Determination using a random tumble method*

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Annex A forms a normative part of this part of ISO 12945.

Introduction

Pills are formed when fibres on a fabric surface “tease out” and become entangled during wear. Such surface deterioration is generally undesirable, but the degree of consumer tolerance for a given level of pilling will depend on the garment type and fabric end use.

Generally the level of pilling which develops is determined by the rates of the following parallel processes:

- a) fibre entanglement leading to pill formation;
- b) development of more surface fibre;
- c) fibre and pill wear-off.

The rates of these processes depend on the fibre, yarn and fabric properties. Examples of extreme situations are found in fabrics containing strong fibres versus fabric containing weak fibres. A consequence of the strong fibre is a rate of pill formation that exceeds the rate of wear-off. This results in an increase of pilling with an increase of wear. With a weak fibre the rate of pill formation competes with the rate of wear-off. This would result in a fluctuation of pilling with an increase of wear. There are other constructions that the surface fibre wear-off occurs before pill formation. Each of these examples demonstrates the complexity of evaluating the surface change on different types of fabric.

The ideal laboratory test would accelerate the wear processes a), b) and c) by exactly the same factor and would be universally applicable to all fibre, yarn and fabric types. No such test has been developed. However, a test procedure has been established in which fabrics can be ranked in the same order of fuzzing and pilling propensity as is likely to occur in end-use wear.

The modification to the very widely adopted Martindale abrasion testing machine on which this part of ISO 12945 is based is described in a publication by H. Knecht: *Neue Methode zur Prüfung der Pillingneigung* in *Wirkerei und Strickerei Technik*, **38** (1988), 12, p. 1309.