
**Tekstilije - Ugotavljanje nagnjenja tekstilij k površinskemu razvlaknjanju in pilingu
- 3. del: Naključna metoda s pilingom bobna (ISO 12945-3:2014)**

Textiles - Determination of the fabric propensity to surface pilling, fuzzing or matting -
Part 3: Random tumble pilling method (ISO 12945-3:2014)

Textilien - Bestimmung der Neigung von textilen Flächengebilden zur Pill-, Flusen-, oder
Filzbildung auf der Oberfläche - Teil 3: Random-Tumble-Pilling-Verfahren (ISO 12945-
3:2014)

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Textiles - Détermination de la résistance au boulochage, à l'ébouriffement ou au
moutonnement des étoffes - Partie 3: Méthode d'essai de boulochage par chocs
aléatoires dans une chambre cylindrique (ISO 12945-3:2014)

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Textiles - Determination of the fabric propensity to surface pilling,
fuzzing or matting - Part 3: Random tumble pilling method (ISO
12945-3:2014)

Textiles - Détermination de la propension des étoffes à
l'ébouriffage en surface et au boulochage - Partie 3:
Méthode de boulochage par projections aléatoires dans une
chambre cylindriques (ISO 12945-3:2014)

Textilien - Bestimmung der Neigung von textilen
Flächengebilden zur Pill-, Flusen- oder Filzbildung auf der
Oberfläche - Teil 3: Random-Tumble-Pilling-Verfahren (ISO
12945-3:2014)

This European Standard was approved by CEN on 21 June 2014.

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Foreword

This document (EN ISO 12945-3:2014) 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of an identical text or by endorsement, at the latest by January 2015, and conflicting national standards shall be withdrawn at the latest by January 2015.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.

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Endorsement notice

The text of ISO 12945-3:2014 has been approved by CEN as EN ISO 12945-3:2014 without any modification.

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**Textiles- Determination of the fabric
propensity to surface pilling, fuzzing
or matting —**

**Part 3:
Random tumble pilling method**

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*Textiles - Détermination de la propension des étoffes à l'ébouriffage en
surface et au boulochage —
Partie 3: Méthode de boulochage par projections aléatoires dans une
chambre cylindrique*

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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).

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).

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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 38, *Textiles*, Subcommittee SC 24, *Conditioning atmospheres and physical tests for textile fabrics*.

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

- *Part 1: Pilling box method*
- *Part 2: Modified Martindale method*
- *Part 3: Random tumble pilling method*

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 where 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.

Particular attention is drawn to [Annex A](#) which gives advice on the maintenance and checking of the apparatus and liners. It is recommended that [Annex A](#) be studied prior to carrying out the procedure.

In Bibliography, some listed national standards have been taken into consideration as they refer to the use of the equipment, on which this part of ISO 12945 is based.