

Translated English of Chinese Standard: GB/T4802.3-2008

www.ChineseStandard.net

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 59.080.30
W04

GB/T 4802.3-2008

Replacing GB/T 4802.3-1997

Textiles - Determination of fabric propensity to surface fuzzing and to pilling – Part 3: Pilling box method

纺织品 织物起毛起球性能的测定 第3部分：起球箱法
(GB/T 4802-1:2000, MOD)

GB/T 4802.2-2008 How to BUY & immediately GET a full-copy of this standard?

1. www.ChineseStandard.net;
2. Search --> Add to Cart --> Checkout (3-steps);
3. No action is required - Full-copy of this standard will be automatically & immediately delivered to your EMAIL address in 0~25 minutes.
4. Support: Sales@ChineseStandard.net. Wayne, Sales manager

Issued on: June 18, 2008

Implemented on: March, 1 2009

**Issued by: General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (GAQSIQ);
Standardization Administration of China (SAC).**

Table of Contents

Foreword	3
1 Scope	5
2 Normative references	5
3 Terms and definitions.....	5
4 Principle.....	6
5 Apparatus and materials.....	6
6 Conditioning and testing atmosphere	7
7 Preparation of test specimens	7
8 Procedure	9
9 Assessment of fuzzing and/or pilling	9
10 Results.....	10
11 Test report.....	10
Annex A.....	12

Foreword

GB/T 4802 "Textiles - Determination of fabric propensity to surface fuzzing and to pilling" is divided into 4 parts:

- Part 1: Circular locus method;
- Part 2: Modified Martindale method;
- Part 3: Part 3: Pilling box method;
- Part 4: Random rolling method.

This is past 3 of GB/T 4802.

This part is modified in relation to ISO 11945-1:2000 Textiles - Determination of fabric propensity to surface fuzzing and to pilling - Part 2: Pilling box method (English edition).

The differences between this part and ISO 12945-1:2000 are as follows:

- Note 2 is added in chapter 8.
- Relative provisions on grade and comparison are added in clause 9.
- Clause "i) after pretreatment, compare the sample with the not treated sample, the increase rating of fuzzing, pilling or pills" is added in chapter 11. The sequence numbers after that are increased sequentially.

This part replaces GB/T 4802.3-1997 Textiles - Determination of fabric propensity to surface fuzzing and to pilling - Part 2: Pilling box method.

The differences between this part and GB/T 4802.3-1997 are as follows:

1. Standard name is changed into "Textiles - Determination of fabric propensity to surface fuzzing and to pilling - Part 3: Pilling box method".
2. In the scope, it do not specify the applicable textures..
3. Chapter 3 Terminology and Definition are modified and supplemented.
4. Grade-box specific requirements are provisioned and explained in figure.
5. Sample size is changed from "114mm×114mm" to "125mm× 125mm"; the sample tube sewing requirements are adjusted;
6. Overturn frequency in the original standard is changed to be note;

Textiles - Determination of fabric propensity to surface fuzzing and to pilling – Part 3: Pilling box method

1 Scope

This part of GB/T 4802 describes a method for the determination of the resistance to pilling and surface change of textile fabrics.

2 Normative references

The following normative document contains the provisions which, through reference in this text, constitute the provisions of this part of GB/T 4802. For dated references, the subsequent amendments or revisions of these publications do not apply. However, the parties who reach an agreement based on this part of GB/T 4802 are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies.

GB/T 6529 Textiles - Standard atmospheres for conditioning and testing (GB/T 6529-2008, ISO 139:2005, MOD)

3 Terms and definitions

For the purposes of this part of GB/T 4802, the following terms and definitions apply.

3.1 fuzzing

The visible surface change that is generated by roughing up of the surface fibers and/or teasing out of the fibers.

Note: This change can occur during washing, dry cleaning and/or wearing.

3.2 pills

The ball that is generated by entangling of fibers, protruded out of the fabric surface, are of such density that light can not penetrate and cast a shadow.

Note: The forming of pills can occur during washing, dry cleaning and/or wearing.

3.3 pilling

The process that the fabric surface generates pills.

4 Principle

Specimens are mounted on polyurethane tubes and tumbled randomly in a cork-lined box at a constant rotational speed. Fuzzing and pilling is assessed visually after a defined period of tumbling. Any special treatment of the laboratory sample, i.e. washing, cleaning, has to be agreed upon and shall be stated in the test report.

5 Apparatus and materials

5.1 Pill testing box, cubic, with internal dimensions, before lining, of 235 mm. All internal surfaces of the box shall be lined with cork jointing material of 3.2 mm thickness. The box shall be rotated at (60 ± 2) r/min about a horizontal axis passing through the centers of two opposite faces. One side of the box shall be removable for access.

Note: Advice on the calibration and comparison of pill testing boxes is given in annex A.

Cork linings shall be inspected at regular intervals and shall be replaced when obviously damaged or soiled in such a way as to alter their frictional properties (see A.4).

5.2 Polyurethane specimen tubes, (four are required), each measuring (140 ± 1) mm in length by (31.5 ± 1) mm outside diameter by (3.2 ± 0.5) mm wall thickness, mass (52.25 ± 1) g.

5.3 Mounting jig, used to mount specimens on the tubes.

5.4 Self-adhesive polyvinyl chloride (PVC) tapes, 19 mm wide.

5.5 Sewing machine.

5.6 Viewing cabinet, illuminated by a white fluorescent tube or bulb (the color temperature of the light source is not critical) to give uniform illumination over the width of the specimen(s) and masked in such a way that the observer does not look directly into the light. Position the illuminant at an angle between 5° and 15° to the plane of the specimen (see Figure 1). The distance between the eye and the specimen shall be between 30 cm and 50 cm for normal corrected vision.

7.5 Conditioning

Condition the specimens in the atmosphere specified in clause 6 for at least 16 h. Carry out the test in the same atmosphere.

8 Procedure

Ensure that the inside of the pill testing box (5.1) is clean and free from lint.

Place the four mounted specimens from the sample in the same pill testing box. Close and firmly secure the lid. Tumble the tubes in the box for the agreed number of revolutions.

Note 1: No test/wear predictions are available covering all types of textile fabrics. It is therefore necessary for the parties concerned to agree on the number of revolutions for the particular fabric construction under test.

Note 2: without agreement or regulations, it is suggested that the roving texture overturn 7200r and spinning texture overturn 14400r.

Take out sample from pilling test box and take off the seam.

9 Assessment of fuzzing and/or pilling

The viewing cabinet shall be situated in a darkened room.

Place the tested specimen and a piece of the original sample, with or without pretreatment (see 7.1), centrally on the lectern in the viewing cabinet (see Figure 1), with the length direction vertical. If necessary use a piece of self- adhesive PVC tape (5.4) to ensure correct placement. Mount the tested specimen on the left and the original sample on the right.

In order to prevent glare from the light source view each specimen from just outside the viewing cabinet. Directly in front of the specimen.

Due to the subjective nature of the assessment, it is recommended that at least two observers assess the specimens.

Grade each specimen in accordance with the grading scheme given in Table 1. If the grading appears between two grades, report the "half grading as, for example, 3.5.

The test result for each individual observer is the average of four specimen grades. The test result for the laboratory sample is the average of the observer grades.

Photographic assessment may be used to support the primary descriptive method of assessment, as agreed between interested parties.

Annex A

(Informative)

Advice on the use of the pill testing box

A.1 Pill testing box

The rotational speed of (60 ± 2) r/min should be checked periodically.

New liners require running in for approximately 200 h with four blank tubes until the liner has stopped shedding cork dust. Generally, the frictional properties of the cork are not a major source of test result variation, but after prolonged use the surface of the cork may become polished or contaminated. Such changes can lead to less severe pill testing. In such cases, the cork liners should be replaced.

A.2 Specimen tubes

The press-moulded polyurethane tubes should be identical to each other when new. Experience of intensive use has shown that no significant wear of these tubes occurs under normal use conditions.

The most critical part of the tube is the convex outer surface at its end. New tubes should be checked on receipt in order to ensure that no moulding faults have occurred in the critical region. In-use damage is unlikely, but if it should occur it is essential that the tube be replaced.

A.3 Cleaning and maintenance

Before each test it is essential to ensure that all fluff and debris from the previous test have been removed from inside the box, e.g. by means of a vacuum cleaning device or by using a painter's small brush. Periodically, it may be necessary to clean the cork liners if they have become contaminated by finishes etc. from test fabrics. A suitable cleaning solvent is industrial methylated spirit. Use only a minimum amount of solvent to wipe the surface of the cork.

NOTE: The use of industrial methylated spirit may be the subject of national legal regulations.

A.4 Calibration

It is recommended that each user of this test method retain two calibration fabrics relevant to the work of the laboratory and having different levels of pilling and fuzzing in the range grade 1-2 to grade 4.

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----