BS EN 15598:2008

# Textiles — Terry fabrics — Test method for the determination of the resistance to pile loop extraction

ICS 59.080.30

# National foreword

This British Standard is the UK implementation of EN 15598:2008.

The UK participation in its preparation was entrusted to Technical Committee TCI/66/1, Sheets, towels and blankets.

A list of organizations represented on this committee can be obtained on request to its secretary.

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**EN 15598**

August 2008

ICS 59.080.30

English Version

# Textiles - Terry fabrics - Test method for the determination of the resistance to pile loop extraction

Textiles - Tissus éponges - Méthode de détermination de la résistance des boucles du velours au débouclage

Textilien - Frottiergewebe - Prüfverfahren zur Bestimmung der Beständigkeit von Polschlingen gegen Herausziehen

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

This document (EN 15598:2008) has been prepared by Technical Committee CEN/TC 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of an identical text or by endorsement, at the latest by February 2009, and conflicting national standards shall be withdrawn at the latest by February 2009.

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## 1 Scope

This European Standard specifies a test method to determine the force needed to withdraw a loop from the foundation of a terry fabric.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 139, *Textiles — Standard atmospheres for conditioning and testing (ISO 139:2005)*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

**3.1**
**pile**
surface effect on a fabric formed by tufts or loops of yarns that stand up from the body of the fabric

**3.2**
**terry fabric (woven)**
warp-pile fabric in which loops are created, without positive assistance, by varying the relative positions of the fell and the reed, whereby a high tension is applied to the ground warp and a very low tension to the pile warp

**3.3**
**constant-rate-of-extension testing machine (CRE machine)**
tensile testing machine provided with one stationary clamp and another clamp, which moves at a constant speed throughout the test

## 4 Principle of test

An increasing load is exerted on a loop until it loosens and pulls along a length of successive loops. The force needed to perform this is the resistance to pile loop extraction.

## 5 Equipment

A CRE tensile testing machine, equipped with a stress and strain recording instrument, shall be used. The speed of the moving clamp shall be (100 ± 10) mm/min.

## 6 Sampling

The sample shall be representative for the material tested. It shall not contain visible defects, wrinkles or folds, unless explicitly needed for the examination.

At least five test specimens of (120 ± 5) mm × (25 ± 2) mm shall be taken from the sample. The specimens' orientation shall be in line with the yarn arrangement which forms the loop.

The test specimens shall be selected on a diagonal line across the width of the sample, if possible at least 100 mm from the edges of the sample.

If the terry cloth contains un-looped areas and it is not possible to obtain test specimens between them, the test specimens shall be taken with their centre as far from the un-looped area as possible.

## 7 Conditioning

Conditioning of test specimens and testing shall be carried out in an atmosphere according to EN ISO 139.

## 8 Test procedure

Fold the test specimen double with its short sides against each other and the fold along a row of loops. Attach the folded specimen to one jaw of the tensile testing machine, so that about 10 mm of the fabric will be held by the jaw.

Pass a yarn or hook through a loop in the middle loop row at the fold and attach it to the other jaw of the machine. The hook shall be positioned with the centre of the jaw in the line of the applied force. The threads of a double/multiple wound yarn count as one loop. The test specimen is slightly stretched as it is attached to the jaws to prevent the loop yarn from slipping out.

Start the tensile testing machine and pull the loop at a speed of 100 mm/min. The loop shall be aligned with the pull direction without being twisted. Exert the stress until the distance of the jaws has grown 10 mm.

Pull one loop yarn from each test specimen.

## 9 Calculation of results

The resistance to pile loop extraction of a test specimen is the force obtained from the recorded graph at the point where the distance of the jaws has grown 10 mm (see Figure 1a)). Force readings shall be carried out to the nearest 0,05 N.

However, if the graph shows an earlier peak before reaching this point, the reading at that peak shall be used (see Figure 1b)). The term peak refers to a point of the graph which is higher than the adjacent points on each side. However, force peaks, which are lower than the force at 10 mm jaw distance, shall be discarded (see Figure 1c)).

The average of the individual test results shall be calculated.

## 10 Test report

The test report shall contain the following information:

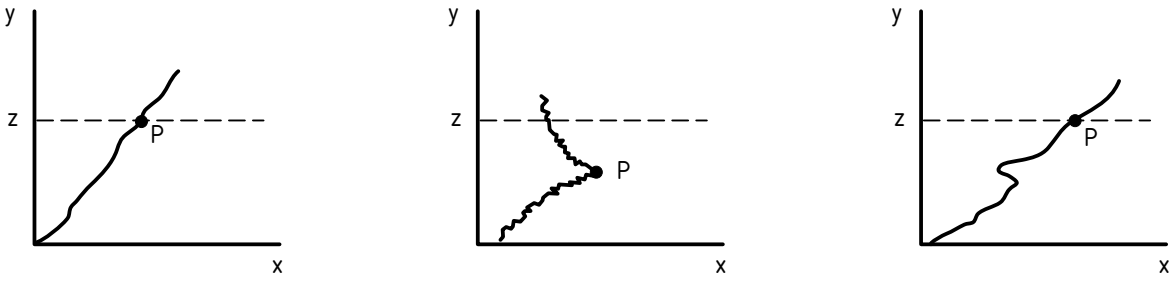
a) reference to this European Standard, i.e. EN 15598;

b) description and designation of the tested fabric;

c) the test results of all individual test specimens, in Newtons;

d) the average resistance to pile loop extraction, in Newtons;

e) any deviation from this European Standard and any incident likely to have affected the result.




a) Example b) Example c) Example

**Key**

y distance between jaws
x force N
z distance 10 mm
P point to take the reading

**Figure 1 — Examples of force versus displacement curves**

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