BS ISO 11856:2014

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Textile floor coverings — Test methods for the determination of fibre bind using a Modified Martindale Machine

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This British Standard is the UK implementation of ISO 11856:2014. It supersedes DD ISO/PAS 11856:2003 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/3, Textile floor coverings.

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

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Textile floor coverings — Test methods for the determination of fibre bind using a Modified Martindale Machine

Revêtements de sol textiles — Méthodes d'essai pour la détermination du défibrage en utilisant un appareillage de martindale modifié

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Foreword

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The committee responsible for this document is ISO/TC 219, *Floor coverings.*

This first edition of ISO 11856 cancels and replaces ISO/PAS 11856:2003.

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INTERNATIONAL STANDARD ISO 11856:2014(E)

Textile floor coverings — Test methods for the determination of fibre bind using a Modified Martindale Machine

1 Scope

The method in this International Standard uses a modified Martindale fabric abrasion machine to assess fibre loss in pile carpets by weighing the amount of fibre removed at specified intervals. It is applicable to all types of cut pile, wool-rich textile floor coverings.

2 Normative references

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

ISO 139, *Textiles — Standard atmospheres for conditioning and testing*

ISO 1957, *Machine-made textile floor coverings — Selection and cutting of specimens for physical tests*

ISO 2424, *Textile floor coverings — Vocabulary*

ISO 10361, *Textile floor coverings — Production of changes in appearance by means of Vettermann drum and hexapod tumbler tester*

ISO 12947-1, *Textiles — Determination of the abrasion resistance of fabrics by the Martindale method — Part 1: Martindale abrasion testing apparatus*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 2424 and the following apply.

3.1
wool rich
textile floor covering with a pile content >50 % wool

4 Principle

Specimens are rubbed under a standard pressure in a prescribed manner against a hemispherical polyurethane stud. The fibre loss at specified intervals is collected, weighed, and the rate of mass loss calculated.

5 Apparatus

5.1 Martindale fabric abrasion machine, as specified in ISO 12947-1 with the following modifications:

a) the specimen is mounted on the base plate;

b) the original specimen head is replaced by a rubbing head comprising a hemispherical polyurethane stud as specified in ISO 10361, being screwed into a suitable spindle with a sufficient mass added, so that the total mass of the assembly is 750 g ± 20 g.

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It is important to ensure that when the head is in position on the carpet specimen there is sufficient clearance between the top of the head and spindle holder to allow the abradant head assembly to move freely over the specimen.

5.2 **Balance**, capable of weighing to the nearest 0,001 g.

5.3 **Tweezers**, to remove loose fibre.

5.4 **Container**, to store the collected loose fibre.

6 Test specimens

Cut two specimens in accordance with ISO 1957, of suitable size to fit the base plate of the machine. The specimens shall be laid out singly, use surface uppermost.

7 Atmosphere for conditioning and testing

The specimens shall be conditioned and the test conducted in the standard atmosphere for testing textiles of 65 % ± 4 % relative humidity and 20 °C ± 2 °C, as specified in ISO 139.

8 Procedure

8.1 Clean and weigh the container.

8.2 Mount the specimen onto the baseplate and clamp into place, ensuring the specimen remains substantially flat. Clean the polyurethane rubbing heads using diethyl ether, allow to dry, and attach to the mounting plate.

8.3 Set the counter for 500 rubs. When the machine has stopped, remove all loose fibre from the specimen using tweezers (do not handle fibre with fingers), place in the container, and weigh to the nearest 0,001 g. Continue the test removing and recording masses of all loose fibre at the following intervals: 1 000 rubs, 5 000 rubs, 10 000 rubs, 15 000 rubs, 20 000 rubs, 25 000 rubs, and 30 000 rubs.

8.4 Repeat 8.2 and 8.3 for the second specimen.

9 Expression of results

9.1 Calculate the total mass of loose fibre in mg for each specimen at each interval. Furthermore, calculate the mean of result at each stage.

9.2 Plot a graph of the total mass loss of loose fibre for each specimen against the number of rubs.

9.3 Calculate the mass of loose fibre in mg per rub for each specimen between 10 000 rubs and 30 000 rubs. Calculate the mean result.

10 Test report

The test report shall contain the following information:

a) the identity (source and type) of the sample from which the specimens were taken;

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b) a reference that the procedure was conducted in accordance with this International Standard (i.e. ISO 11856), and also details of any deviation from this International Standard;

c) the standard atmosphere;

d) mass of loose fibre collected at each stage per specimen and the mean results;

e) mass of loose fibre per rub for each specimen between 10 000 rubs and 30 000 rubs and the mean result.

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