



BSI Standards Publication

# Furniture — Assessment of the surface resistance to microscratching

### **National foreword**

This Published Document is the UK implementation of CEN/TS 16611:2014.

The UK participation in its preparation was entrusted by Technical Committee FW/0, Furniture, to Subcommittee FW/0/1, Common Test Methods for Furniture.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2014.  
Published by BSI Standards Limited 2014

ISBN 978 0 580 82657 3  
ICS 97.140

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 April 2014.

### **Amendments/corrigenda issued since publication**

<b>Date</b>	<b>Text affected</b>
-------------	----------------------

---

ICS 97.140

English Version

**Furniture - Assessment of the surface resistance to  
microscratching**Ameublement - Évaluation de la résistance des surfaces  
aux micro-rayuresMöbel - Bestimmung der Mikrokratzbeständigkeit von  
Möbeloberflächen

This Technical Specification (CEN/TS) was approved by CEN on 14 October 2013 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

<b>Contents</b>		Page
Foreword.....		5
1	Scope .....	6
2	Normative references .....	6
3	Terms and definitions .....	6
4	Principle.....	7
5	Apparatus and materials.....	7
5.1	Martindale tester .....	7
5.2	Holder for scrub material .....	7
5.3	Diffuse light source .....	7
5.4	Reflectometer .....	7
5.5	Positioning device .....	8
5.6	Scrub materials .....	8
5.7	Double-sided tape.....	8
5.8	Cleaning cloth .....	9
5.9	Reference black high gloss HPL.....	9
6	Assembly and maintenance of the Martindale tester.....	9
7	Preparation and conditioning.....	9
7.1	Conditioning.....	9
7.2	Test surface .....	9
8	Test procedure .....	9
8.1	General.....	9
8.2	Testing .....	10
8.2.1	Procedure A.....	10
8.2.2	Procedure B.....	11
9	Test report .....	11
Annex A (normative)	Method for checking the Lissajous figure .....	12
Annex B (normative)	Classification of the image after scratching according to procedure B.....	13
Bibliography .....		15

## Figures

Figure 1 — Scheme of positioning device for the reflectometer on the shaded measurement area .....	8
Figure A.1 — Examples of acceptable and unacceptable Lissajous figures .....	12

## **Tables**

<b>Table 1 — Test procedures for determination of resistance to micro scratches .....</b>	<b>10</b>
<b>Table B.1 — Classification for visual assessment according to procedure B .....</b>	<b>13</b>

## **Foreword**

This document (CEN/TS 16611:2014) has been prepared by Technical Committee CEN/TC 207 "Furniture", the secretariat of which is held by UNI.

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.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **1 Scope**

This Technical Specification specifies a method for the assessment of the surface resistance to microscratching and relates to rigid surfaces of all finished products regardless of materials.

Method A is suitable for all types of surface coatings and coverings except for lacquers with pearly or metallic effects.

Method B is suitable for all types of surface.

It does not apply to finishes on leather and fabrics.

The test is intended to be carried out on a part of finished furniture, but can be carried out on test panels of the same material, finished in an identical manner to the finished product, and of a size sufficient to meet the requirements of the test.

It is essential that the test shall be carried out on unused surfaces.

## **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.

EN ISO 2813, *Paints and varnishes — Determination of specular gloss of non-metallic paint films at 20°, 60° and 85° (ISO 2813)*

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

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

## **3 Terms and definitions**

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

### **3.1**

#### **test surface**

part of the test panel

### **3.2**

#### **test panel**

panel including the test surface

Note 1 to entry: It may be cut from a finished item of furniture or it may be a separate panel produced in the same manner as the finished item of furniture.

### **3.3**

#### **test area**

part of the test surface effected by the scrub material (5.6)

### **3.4**

#### **rub**

one revolution of the two outer drives of the Martindale tester