

DD CEN/TS 16209:2011



BSI Standards Publication

# Furniture — Classification for properties for furniture surfaces

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According to the replies received by the end of the review period, the responsible BSI Committee will decide whether to support the conversion into an international Standard, to extend the life of the Technical Specification or to withdraw it. Comments should be sent to the Secretary of the responsible BSI Technical Committee at British Standards House, 389 Chiswick High Road, London W4 4AL.

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

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

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This Draft for Development was published under the authority of the Standards Policy and Strategy Committee on 31 July 2011.

#### **Amendments issued since publication**

Date	Text affected
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TECHNICAL SPECIFICATION  
SPÉCIFICATION TECHNIQUE  
TECHNISCHE SPEZIFIKATION

**CEN/TS 16209**

June 2011

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English Version

**Furniture - Classification for properties for furniture surfaces**

Ameublement - Classification des propriétés des surfaces  
d'ameublement

Möbel - Klassifizierung von Möbeloberflächen

This Technical Specification (CEN/TS) was approved by CEN on 3 April 2011 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.

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## **Foreword**

This document (CEN/TS 16209:2011) has been prepared by Technical Committee CEN/TC 207 "Furniture", the secretariat of which is held by UNI.

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## **Introduction**

This document is a working document for the classification of the resistance of furniture surfaces according to the following properties:

- Resistance to dry heat
- Resistance to wet heat
- Resistance to cold liquids
- Resistance to abrasion
- Resistance to scratching

NOTE Classification for other important properties for furniture surfaces, such as adhesion or light fastness, are included in EN ISO 2409:2007 and EN 15187:2006.

## 1 Scope

This Technical Specification specifies a system for the classification of the resistance to:

- Dry heat
- Wet heat
- Cold liquids
- Abrasion
- Scratching

For resistance to dry heat, resistance to wet heat, and resistance to cold liquids, this Technical Specification applies to all furniture surfaces regardless of materials, except finishes on leather and fabrics.

The classification for the surface resistance to abrasion applies to foil, laminate, melamine faced boards, pigmented and transparent coatings. It does not apply to the surfaces covered by EN 14434.

The classification for the surface resistance to scratching has two methods, A and B. Method A applies to all types of surface coatings and coverings except for melamine faced boards and HPL. Method B applies to all types of surfaces. It does not apply to finishes on leather and fabrics.

## 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 12720, *Furniture – Assessment of surface resistance to cold liquids*

EN 12721, *Furniture – Assessment of surface resistance to wet heat*

EN 12722, *Furniture – Assessment of surface resistance to dry heat*

EN 15185:2011, *Furniture – Assessment of the surface resistance to abrasion*

prEN 15186:2010, *Furniture – Assessment of the surface resistance to scratching*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12720, EN 12721, EN 12722, EN 15185:2011 and prEN 15186:2010 apply.

## 4 Classification

### 4.1 General

This is a classification system for five properties.

Each property relates to five Classes, from A to E, by decreasing the requirements asked for each Class, as stated in clauses 4.2 to 4.6.

#### 4.2 Classification of the resistance to dry heat

**Table 1 — Resistance to dry heat**

Temperature °C	Class				
	A	B	C	D	E
55					≥ 4
70				≥ 4	
100			≥ 4		
140		≥ 4			
180	≥ 4				

#### 4.3 Classification of the resistance to wet heat

**Table 2 — Resistance to wet heat**

Temperature °C	Class				
	A	B	C	D	E
55				≥ 4	≥ 3
70			≥ 4		
85		≥ 4			
100	≥ 4				



#### 4.4 Classification of the resistance to cold liquids

**Table 3 — Resistance to cold liquids**

Liquid	Class									
	A		B		C		D		E	
	Time	Rating	Time	Rating	Time	Rating	Time	Rating	Time	Rating
Acetic acid	16 h	4	1 h	4	2 min	4	x	x	x	x
Acetone	10 min	4	10 s	4	x	x	x	x	x	x
Ammonia (10 %)	16 h	4	1 h	4	2 min	4	x	x	x	x
Citric acid (10 %)	16 h	4	1 h	4	2 min	4	x	x	x	x
Cleaning agent solution	16 h	4	6 h	4	1 h	4	10 min	4	2 min	4
Coffee	16 h	4	6 h	4	1 h	4	10 min	4	2 min	4
Ethanol 48 %	6 h	4	1 h	4	10 min	4	10 min	4	x	x
Paraffin oil Dynamic viscosity 20 °C 25 mPas to 80 mPas	24 h	4	16 h	4	6 h	4	1 h	4	10 min	4
Water	24 h	4	16 h	4	6 h	4	1 h	4	1 h	4
Perspiration basic	1 h	4	1 h	4	1 h	4	1 h	4	1 h	4

NOTE x means no value

The highest class achieved by all the liquids shall be the class that is assigned for that surface finish.

EXAMPLE If the result is:

Acetic acid achieves class B

Acetone achieves class A

Ammonia (10 %) achieves class B

Citric acid (10 %) achieves class C

Cleaning agent solution achieves class A

Coffee achieves class A

Ethanol 48 % achieves class A

Paraffin oil achieves class A

Water achieves class A

Perspiration basic achieves class A

Class C is the highest class achieved by all liquids therefore the surface shall be classified as Class C.

#### 4.5 Classification of the resistance to abrasion

**Table 4 — Resistance to abrasion**

IP	Class				
	A	B	C	D	E
Revolutions	≥ 300	]300-150]	]150-80]	]80-30]	< 30

#### 4.6 Classification of the resistance to scratching

**Table 5 — Resistance to scratching**

Method	Class				
	A	B	C	D	E
Linear Method A	≥ 16,0 N	]16,0-11,0] N	]11,0-5,0] N	]5,0-1] N	x
Circular Method B	≥ 2,5 N	]2,5-1,5] N	]1,5-1,0] N	]1,0-0,5] N	< 0,5 N

### 5 Expression of results

The classification is carried out for each property, separately.

For each property, the classification can be different.

The classification shall be expressed by coding the surface quality (named as a Class) referred to the normative document that defines the test method to determine each property.

EXAMPLE

EN 12720: Class A

EN 12721: Class B

EN 12722: Class B

EN 15185: Class A

prEN 15186: Class A

## Bibliography

- [1] EN 15187, *Furniture – Assessment of the effect of light exposure*
- [2] EN ISO 2409, *Paints and varnishes – Cross-cut test*
- [3] EN 14434:2010, *Writing board for educational institutions – Ergonomic, technical and safety requirements and their test methods*





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