

SVENSK STANDARD

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Möbler – Bedömning av ytors motståndskraft mot våt värme

Furniture – Assessment of surface resistance to wet heat

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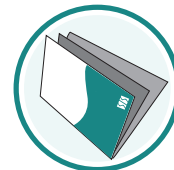
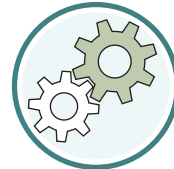
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Denna standard ersätter SS-EN 12721:2009, utgåva 2.

The European Standard EN 12721:2009+A1:2013 has the status of a Swedish Standard. This document contains the official version of EN 12721:2009+A1:2013.

This standard supersedes the Swedish Standard SS-EN 12721:2009, edition 2.

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EUROPEAN STANDARD

EN 12721:2009+A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2013

ICS 97.140

Supersedes EN 12721:2009

English Version

Furniture - Assessment of surface resistance to wet heat

Ameublement - Évaluation de la résistance de la surface à la chaleur humide

Möbel - Bewertung der Beständigkeit von Oberflächen gegen feuchte Hitze

This European Standard was approved by CEN on 3 January 2009 and includes Amendment 1 approved by CEN on 3 September 2013.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 12721:2009+A1:2013) has been prepared by Technical Committee CEN/TC 207 “Furniture”, the secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by April 2014, and conflicting national standards shall be withdrawn at the latest by April 2014.

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This document includes Amendment 1 approved by CEN on 2013-09-03.

This document supersedes A1 EN 12721:2009 A1.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

Informative A1 Annex A A1 provides details of significant technical changes between this European Standard and the previous edition.

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SS-EN 12721:2009+A1:2013 (E)

1 Scope

This European standard specifies a method for the assessment of the resistance to wet heat of all rigid furniture surfaces regardless of materials.

It does not apply to leather and textile surfaces.

The test is intended to be carried out on a part of the 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.

The test should be carried out on unused surfaces.

A1 *deleted text* A1

2 Normative references

A1 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. A1

EN ISO 4287:1998, *Geometrical Product Specifications (GPS) – Surface texture: Profile method – Terms, definitions and surface texture parameters (ISO 4287:1997)*

EN ISO 4288:1997, *Geometrical Product Specifications (GPS) – Surface texture: Profile method – Rules and procedures for the assessment of surface texture (ISO 4288:1996)*

ISO 209:2007, *Aluminium and aluminium alloys – Chemical composition*

ISO 1770:1981, *Solid-stem general purpose thermometers*

3 Terms and definitions

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

3.1

test panel

panel including the test surface

NOTE 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.

3.2

test surface

part of the test panel

3.3

test area

part of the test surface under the heat source (5.2)

3.4

roughness

R_a

arithmetic mean of the absolute values of the profile deviations from the mean line

4 Principle

A standard aluminium alloy block at a specified test temperature is placed on a damp cloth in contact with the test surface. After a specified test period, the block and damp cloth are removed and the test surface is left for 16 h to 24 h. Thereafter, the test surface is cleaned and examined for damages such as discolouration, change in gloss, change in colour, blistering and swelling. The test result is stated in a numerical rating code.

5 Apparatus and materials

5.1 Thermometer

As specified in ISO 1770:1981, capable of insertion to the bottom of the centre bore of the heat source (5.2) or other means of measuring the temperature of the heat source to an accuracy of ± 1 °C.

5.2 Heat source

A block as shown in Figure 1 manufactured from aluminium alloy according to ISO 209:2007, Al Mg Si (alloy shall contain more than 94% aluminium). The roughness of bottom surface shall be (2 ± 1) μm , expressed as *Ra*, according to EN ISO 4287:1998 and EN ISO 4288:1997.

NOTE Alloy 6060 and 64430 are suitable

The following tolerances are applicable:

Lengths: $\pm 0,2$ mm of the nominal length

Angles: $\pm 2^\circ$ of the nominal angle

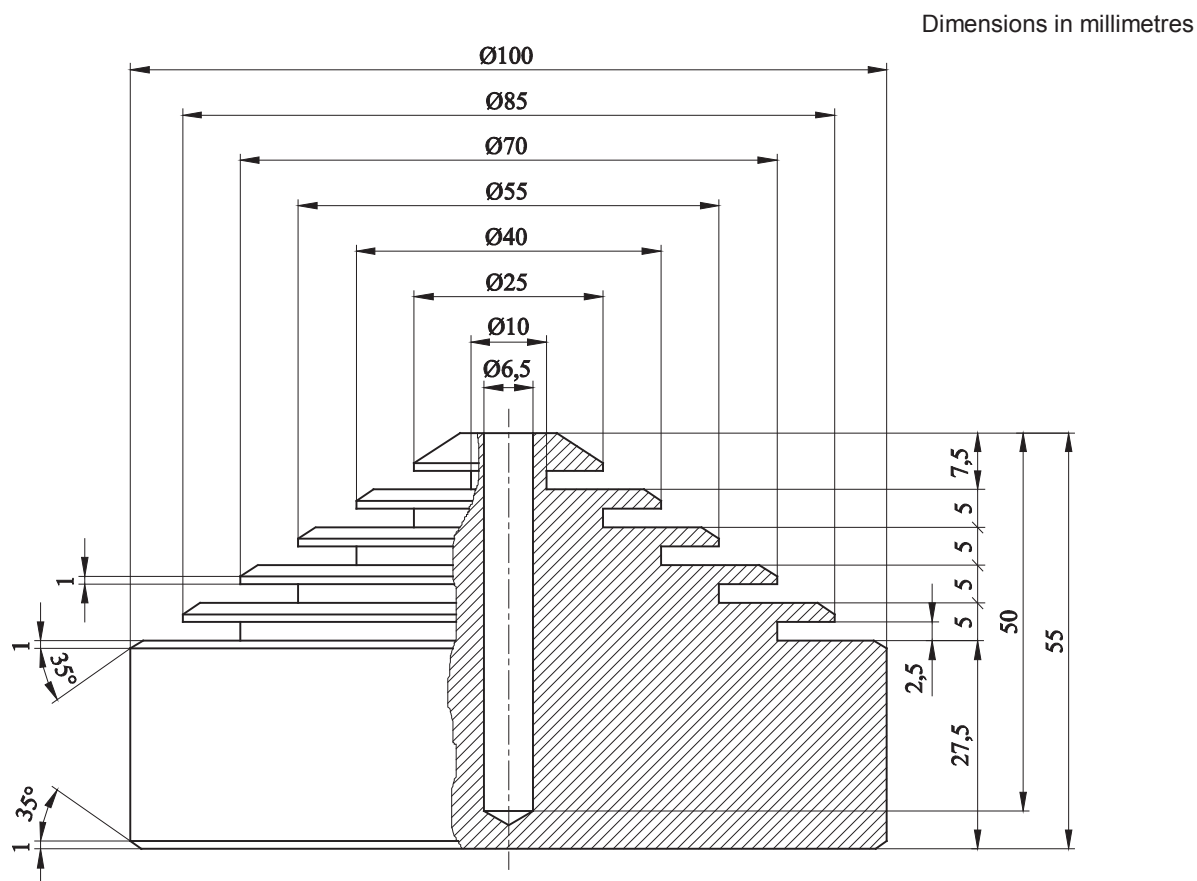


Figure 1 — Aluminium block used as heat source

5.3 Oven

An oven which can heat the heat source to a temperature higher than the test temperature.

5.4 Cleaning cloth

White soft absorbent cloth.

5.5 White polyamide fibre cloth

A plain weave having approximately 40 threads/cm in both warp and weft direction, weighing approximately 50 g/m², and cut (120 ± 3) mm square.

5.6 Deionized or distilled water

5.7 Heat-insulating foam

A melamine foam, with the following characteristics: density between 8,5 kg/m³ and 11,5 kg/m³; heat conductivity, less than 0,035 W/mK. The foam shall withstand at a temperature higher than 200 °C.

5.8 Diffuse light source

Light source providing evenly diffused light, giving an illumination on the test surface of (1200 ± 400) lx. This may either be diffused daylight or be diffused artificial daylight.

NOTE The daylight should be unaffected by surrounding trees, etc. When artificial daylight is used it is recommended that it should have a correlated colour temperature of (6500 ± 50) K and an R_a greater than 92, by using a colour matching booth in accordance with EN ISO 3668:2001. ^[1]

6 Preparation and conditioning

6.1 Conditioning

Conditioning of test surface shall begin at least one week before testing and shall be carried out in air at a temperature of (23 ± 2) °C and relative humidity of $(50 \pm 5)\%$.

The conditioning time shall be stated in the test report.

6.2 Test surface

The test surface shall be substantially flat and with a size sufficient to meet the requirements of Clause 7.

7 Test procedure

7.1 Testing

Immediately after conditioning, the test shall be carried out in a test atmosphere of (23 ± 2) °C.

The test surface shall be placed horizontally. It shall accommodate the required number of tests, with at least 15 mm spacing between the perimeter of adjacent test surfaces, and between the perimeters of the test surfaces and the edges of the panel. Where tests are carried out simultaneously, the perimeters of the test surfaces shall be separated by a minimum of 50 mm. If there is any reason to suppose that the properties of the test surface may vary, two identical tests shall be carried out simultaneously.

The test surface shall be lightly wiped with a cleaning cloth (5.4) before the testing.

Using the oven (5.3), raise the temperature of the heat source to a temperature higher than the specified test temperature, and transfer it to the heat insulating foam (5.7).

Place the thermometer (5.1) or other means of measuring temperature in the centre bore of the heat source (5.2). If the temperature is not higher than the specified test temperature, the heat source shall be placed again in the oven until achieving this higher temperature.

Place the white polyamide fibre cloth (5.5) centrally on the test surface. Spread $(2 \pm 0,2)$ cm³ of distilled or deionized water (5.6) uniformly over the whole area of the white polyamide fibre cloth.

NOTE A graduated eye dropper is suitable for dispensing the distilled or deionised water.

When the heat source reaches the specified test temperature with an accuracy of ± 1 °C, immediately place it on the centre of the white polyamide fibre cloth.

After 20 min in this position, remove the block.

Wipe the test surface dry with the cleaning cloth (5.4) when it has cooled.

Record the position of each test surface and its temperature.

Allow the test surface to stand undisturbed from 16 h to 24 h.

Wipe each test surface with the cleaning cloth (5.4) and examine the test panel.