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SIST EN 12722:2009

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EUROPEAN STANDARD

EN 12722

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

Furniture - Assessment of surface resistance to dry heat

Meubles - Évaluation de la résistance de la surface à la
chaleur sècheMöbel - Bewertung der Beständigkeit von Oberflächen
gegen trockene Wärme

This European Standard was approved by CEN on 3 January 2009.

CEN members are bound to comply with the CEN/GENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

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Contents

Page

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Principle.....	5
5 Apparatus and materials.....	5
5.1 Thermometer	5
5.2 Heat source	5
5.3 Oven	6
5.4 Cleaning cloth	6
5.5 Heat-insulating foam	6
5.6 Diffuse light source	6
6 Preparation and conditioning.....	7
6.1 Conditioning.....	7
6.2 Test surface.....	7
7 Test procedure	7
7.1 Testing	7
7.2 Test temperatures.....	7
8 Examination of the test panel.....	8
9 Assessment of results.....	8
10 Test report	9
Annex A (informative) Direct light source.....	10
A.1 General.....	10
A.2 Apparatus	10
Annex B (informative) Significant technical changes in revised edition of this standard	12
Bibliography	13

Tables

Table 1 — Descriptive numerical rating code.....	8
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Figures

Figure 1 — Aluminium block used as heat source	6
Figure A.1 — Viewing cabinet	11

Foreword

This document (EN 12722:2009) 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of an identical text or by endorsement, at the latest by August 2009, and conflicting national standards shall be withdrawn at the latest by August 2009.

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.

This document supersedes EN 12722:1997.

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

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

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EN 12722:2009 (E)**1 Scope**

This European Standard specifies a method for the assessment of the resistance to dry 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.

Annex A (informative) describes a direct light source.

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 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 the test surface. After a specified period of time the block is removed. The test surface is wiped dry and the test panel left undisturbed for at least 16 h. It is then examined under specified lighting conditions for signs of damage (discolouration, change in gloss and colour, blistering, swelling or other defects). Assessment of the test results in terms of a descriptive 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 *R_a*, according to EN ISO 4287:1998 and EN ISO 4288:1997.

NOTE Alloy 6060 and 64430 are suitable [SIST EN 12722:2009](https://standards.iteh.ai/catalog/standards/sist/d7b3bea5-5ab7-4e69-981c-169556c3d659/sist-en-12722-2009)

For this document, the following tolerances are applicable: <https://standards.iteh.ai/catalog/standards/sist/d7b3bea5-5ab7-4e69-981c-169556c3d659/sist-en-12722-2009>

Dimensions: $\pm 0,2$ mm of the nominal dimension;

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

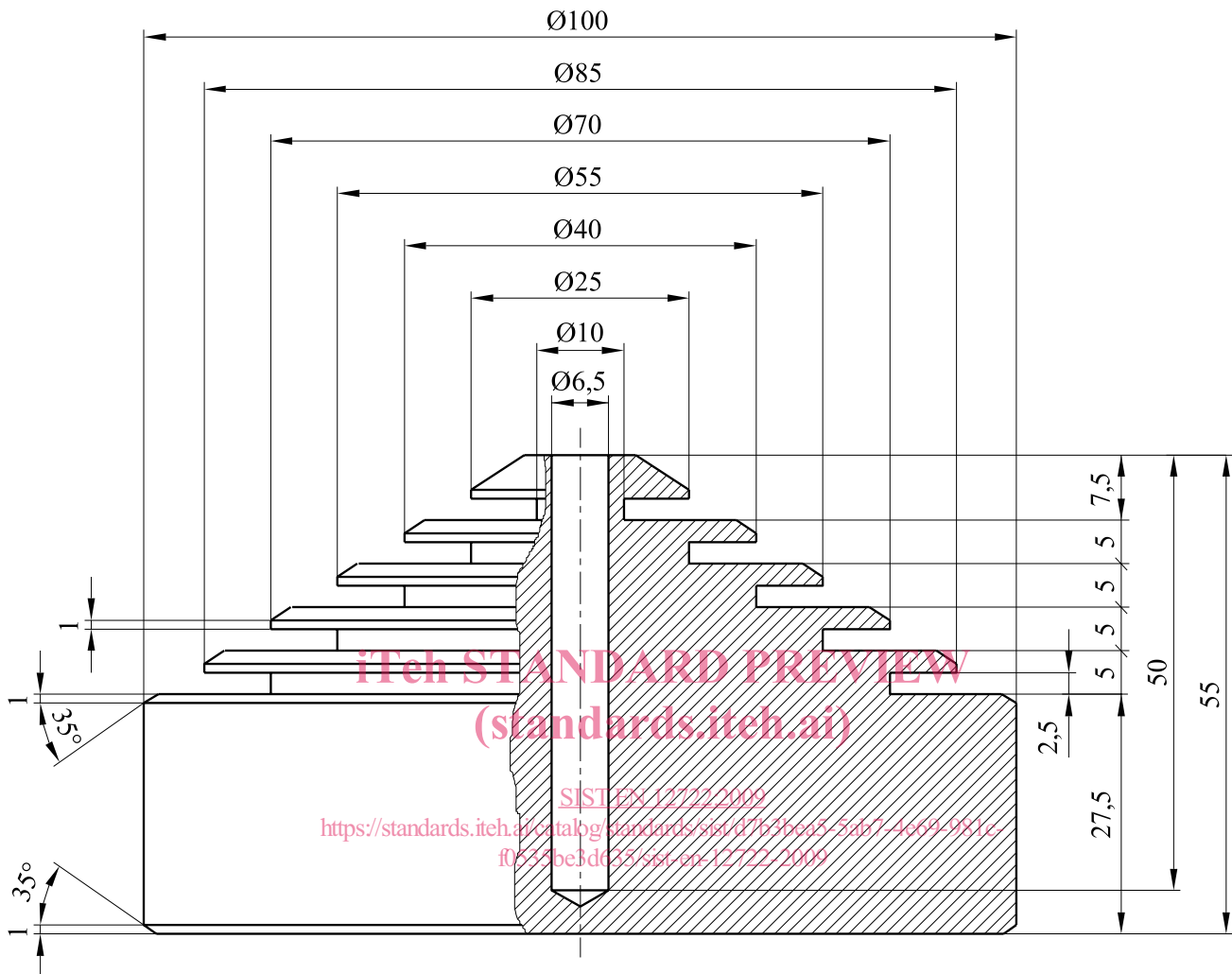


Figure 1 — Aluminium block used as heat source

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 Heat-insulating foam

A melamine foam, with the following characteristics: density between $8,5 \text{ kg/m}^3$ and $11,5 \text{ kg/m}^3$; heat conductivity, less than $0,035 \text{ W/mK}$. The foam shall withstand at a temperature higher than $200 \text{ }^\circ\text{C}$.

5.6 Diffuse light source

Light source providing evenly diffused light, giving an illumination on the test surface of $(1200 \pm 400) \text{ lx}$. 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 ± 5) %.

The conditioning time shall be stated in the test report.

6.2 Test surface

The test surface shall be substantially flat and of 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 test.

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 (5.5).

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.

When the heat source reaches the specified test temperature with an accuracy of ± 1 °C, immediately place it on the test surface.

After 20 min in this position, remove the block.

Wipe the test surface dry with the cleaning cloth 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.

7.2 Test temperatures

The test temperatures shall be stated in requirement specifications, selected from the following: