BRITISH STANDARD

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13722:2004

Furniture — Assessment of the surface gloss

The European Standard EN 13722:2004 has the status of a British Standard

ICS 97.140

National foreword

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EUROPEAN STANDARD

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EN 13722

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English version

Furniture - Assessment of the surface gloss

Meubles - Evaluation de la brillance des surfaces

Möbel - Bewertung des Oberflächenglanzes

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Foreword

This document (EN 13722:2004) 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of an identical text or by endorsement, at the latest by January 2005, and conflicting national standards shall be withdrawn at the latest by January 2005.

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1 Scope

This document specifies a method for the assessment of the surface gloss of furniture surfaces using three reflectometer geometries, 20°, 60° or 85° and relates to rigid surfaces of all finished products regardless of materials, except for finishes on leather and fabrics, which are excluded from this document.

The test is intended to be carried out on 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 not applicable for finishes on some metallic paints and pearly coatings.

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 2813, *Paints and varnishes - Determination of specular gloss of non-metallic paint films at 20°, 60° and 85° (ISO 2813:1994, including Technical Corrigendum 1:1997)*

3 Terms and definitions

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

3.1
specular gloss
ratio of the luminous flux reflected from an object in the specular direction for a specified source and receptor angle to the luminous flux reflected from glass with a refractive index of 1,567 in the specular direction

3.2
test unit
finished item of furniture

3.3
Test surface
part of the test unit, where the test area is included

3.4
test panel
panel produced in the same way as the test surface; it shall be used when it is not possible to carry out the test directly on the test surface

3.5
test area
area under the equipment, where the measurement is carried out

3.6
pearly coatings
coating with pearly additives. The pearly additives act like microscopy mirrors reflecting and transferring the light in several directions

3.7
textured surface
profiled or uneven surface

3.8
open grain surface
surface where the grains/pores are not completely filled by the coating material

4 Principle

The specular gloss of the test unit/test panel shall be measured in various directions, using a glossmeter with the specified geometry.

5 Apparatus

Glossmeter as specified in EN ISO 2813.

6 Preparation and conditioning of test units

The test unit/test panel shall be stored for not less than four weeks at a temperature not less than 15 ^{o}C and not more than 30 ^{o}C with free access of air.

The test unit /test panel shall be kept in a room without direct light exposure.

Conditioning shall begin one week before testing and shall be carried out in air at a temperature of (23 $\pm$ 2) °C and relative humidity of (50 ± 5) %. The conditioning can be a part of the four weeks above.

The test surface shall be cleaned with a soft, clean, lint-free cloth before the test.

The test surface shall be substantially flat and of sufficient size to take the measurements.

7 Calibration of glossmeter

Before carrying out any tests, calibrate the glossmeter according to EN ISO 2813 or the instructions of the glossmeter manufacturer.

Calibration shall be carried out at the start of each period of operation and at intervals short enough to maintain the glossmeter accuracy according to the manufacturer's instructions.

To define the specular gloss scale, polished black glass with a refractive index of 1,567 is equal to a value of 100 for geometries of 20°, 60° and 85°.

8 Test Procedure

8.1 General

Measurements shall be carried out by using glossmeter(s) with the specified geometries and according to the following procedure:

Measure the specular gloss using the 60° geometry method.

If the result (see 8.4) is ≥ 70 units (high specular gloss), additional measurements shall be carried out using the 20° geometry method.

NOTE 1 The 20° geometry method, which uses a smaller receptor aperture, is intended to obtain improved differentiation of high specular gloss.

If the result (see 8.4) is ≤ 10 units (low specular gloss), additional measurements shall be carried out using the 85° geometry method.

NOTE 2 The 85° geometry method, which uses a larger receptor aperture, is intended to obtain improved differentiation of low specular gloss.

The same geometry shall be used for all the measurements on a test unit determination of the specular gloss.

8.2 Textured and/or open grain surfaces

Using the glossmeter, take four measurements in the directions shown in Figure 1.

8.3 Other surfaces

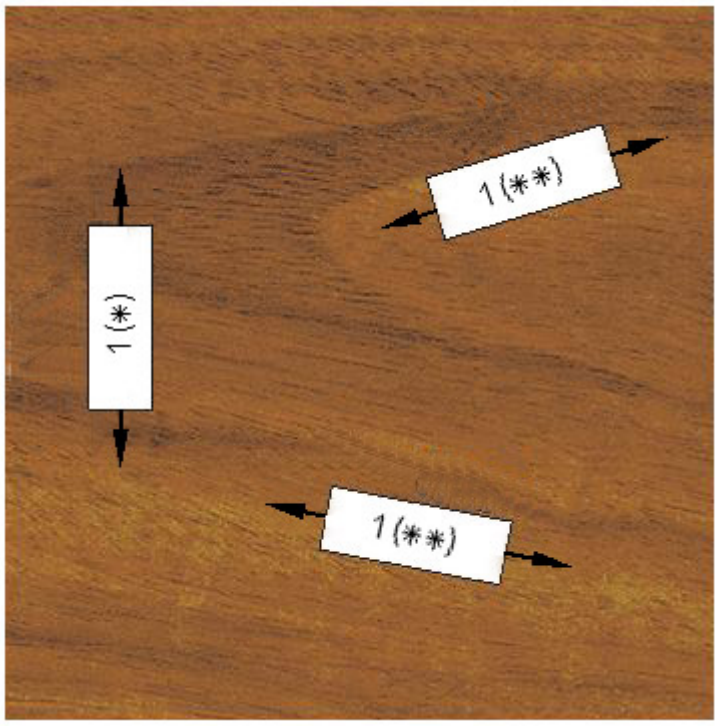
Using the glossmeter, take four measurements in the directions shown in Figure 2.

8.4 Expression of results

The result is expressed in gloss units.

Calculate the mean value of the four values.

If the spread of the values exceeds 10 gloss units or 20 % of the mean value, the measurement shall be considered invalid and the procedure shall be repeated using four different points of the test surface. If the result fails again, the specular surface gloss can not be assessed.



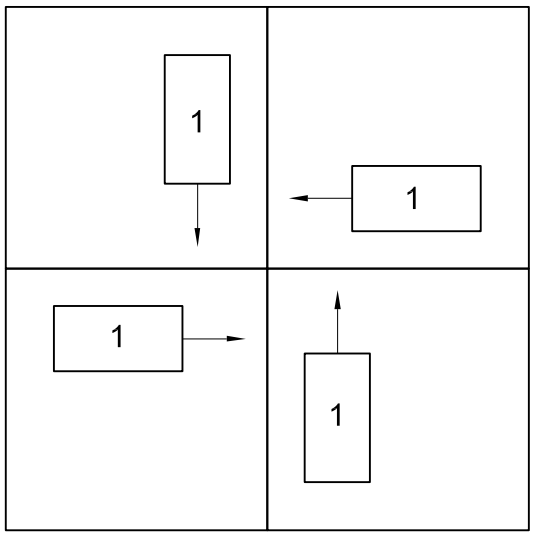
Key

1 Glossmeter direction

(*) Not correct

(**) Correct

Figure 1 — Textured ad open grain surfaces



Key

1 Glossmeter direction

Figure 2 — Other surfaces

9 Test report

The test report shall include at least the following information:

a) Reference to this document;

b) unit or panel tested, including relevant data (wherever possible the substrate, the finishing system and the finishing date shall be identified);

c) geometry used, i.e. 20°, 60° or 85°

d) individual test results and the mean values;

e) any deviations from this document ;

f) name and address of the test facility;

g) date of test.

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