SLOVENSKI STANDARD

SIST EN 15187:2007

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Pohištvo – Ugotavljanje vpliva izpostavljenosti svetlobi

Furniture - Assessment of the effect of light exposure

Möbel - Bestimmung der Lichtbeständigkeit von Oberflächen

Ameublement - Evaluation de la tenue de la surface a la lumiere

Ta slovenski standard je istoveten z: EN 15187:2006

ICS:

97.140 Pohištvo Furniture

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EUROPEAN STANDARD

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English Version

Furniture - Assessment of the effect of light exposure

Ameublement - Évaluation de la tenue de la surface à la lumière

Möbel - Bestimmung der Lichtbeständigkeit von Oberflächen

This European Standard was approved by CEN on 28 August 2006.

CEN members are bound to comply with the CEN/CENELEC 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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Foreword

This document (EN 15187:2006) 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of an identical text or by endorsement, at the latest by April 2007, and conflicting national standards shall be withdrawn at the latest by April 2007.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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 United Kingdom.

1 Scope

This European standard specifies a method for the assessment of the effects of light in indoor conditions, by exposure to artificial radiation and applies to rigid surfaces of all finished products regardless of material.

It does not apply to finishes on leather and fabrics.

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.

This standard describes the most important parameters, such as the colour change when a surface is exposed and specifies the conditions to be used in the exposure apparatus.

The light resistance of a surface can be assessed by using two apparatus as specified in clause 4, one as a reference test method, and the other for in-company testing.

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 105-B02:1999, *Textiles – Tests for Colour fastness – Part B02: Colour fastness to artificial light: Xenon arc fading lamp test (ISO 105-B02:1994, including Amendment 1:1998)*

EN ISO 4892-1, *Plastics – Methods of exposure to laboratory light sources – Part 1: General guidance (ISO 4892-1:1999)*

EN ISO 4892-2, *Plastics – Methods of exposure to laboratory light sources – Part 2: Xenon-arc lamps (ISO 4892-2:2006)*

EN ISO 11341:2004, *Paints and varnishes – Artificial weathering and exposure to artificial radiation – Exposure to filtered xenon-arc radiation (ISO 11341:2004)*

ISO 105–A02:1993, Textiles – Tests for Colour fastness – Part A02: Grey scale for assessing change in colour

3 Terms and definitions

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

3.1
test panel
panel including the test surface (see 3.2)

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 including an exposed as well as a control section (see Figure 1.a and 1.b)

3.3
test atmosphere
atmosphere where the test is carried out

4 Principle

4.1 General

Accelerated exposure to light of furniture surfaces to filtered xenon-arc radiation is carried out in order to assess the behaviour of the surface area and the degree of colour change. The properties of the surfaces exposed are compared with those of masked, unexposed sections from the same test surface.

4.2 Choice of methods

The apparatus described in clause 5.1 shall be used as a reference method in cases where the influence of humidity cannot be excluded.

The apparatus described in clause 5.2 can be used for in-company testing in cases where the influence of humidity can be excluded.

5 Apparatus and materials

5.1 Apparatus with humidity control

A test device as specified in EN ISO 4892-1 and EN ISO 4892-2 with xenon lamp and test parameters, as specified in Table 1.

Table 1 – General conditions for the apparatus with humidity control

Source	Xenon Lamp
Irradiance	EN ISO 11341:2004 Table 2
Control irradiance	50W/m^2 for the wavelength range 300 nm to 400 nm for air cooled Xenon Arc Lamps or 1,25 W/m^2 at 420 nm for water cooled Xenon Arc Lamp, see EN ISO 4892-2, with a recalibration of the reference radiometer or calibrated lamp according to the manufacturer
Test atmosphere	Black Standard Temperature (BST): (55 ± 2) °C RH = (50 ± 10) %, see EN ISO 4892-2

5.2 Apparatus without humidity control

A test device as specified in EN ISO 4892-1 and EN ISO 4892-2 with xenon lamp and test parameters, as specified in Table 2.

Table 2 – General conditions for the apparatus without humidity control

Source	Xenon Lamp
Irradiance	EN ISO 11341:2004 Table 2
Control irradiance	550W/m^2 between 300 nm to 800 nm
Test atmosphere	Black Standard Temperature (BST): (55 ± 2) °C

5.3 Conditioning chamber

A chamber with a standard atmosphere of (23 ± 2) °C, relative humidity (50 ± 5) %.

5.4 Cleaning cloth

White soft absorbent cloth.

5.5 Aluminium foil

Aluminium foil with a thickness of at least 0,03 mm.

5.6 Blue wool scale

Blue wool scale according to EN ISO 105-B02:1999, 4.1.1.

6 Preparation and conditioning

6.1 Storing and conditioning

The test panel shall be kept without direct exposure to light.

The test panel shall be stored for not less than four weeks at a temperature not less than 15°C and not more than 30°C with free circulation of air.

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

NOTE The conditioning can be a part of the above four weeks.

6.2 Test surface

One test surface shall be prepared.

The test surface shall be substantially flat.

The test surface shall be taken at least 20 mm from the edge (see Figure 1.a).

The minimum size of the test surface is 150 mm x 45 mm (see Figure 1.b).

The test surface shall be carefully wiped with a cleaning cloth, see clause 5.4, before the test.