SLOVENSKI STANDARD
SIST EN 16890:2017

01-november-2017

Pohištvo za otroke - Posteljni vložki za posteljice in zibelke - Varnostne zahteve in preskusne metode

Children's furniture - Mattresses for cots and cribs - Safety requirements and test methods

Kindermöbel - Matratzen für Kinderbetten - Sicherheitstechnische Anforderungen und Prüfverfahren

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Mobilier pour jeunes enfants - Matelas pour berceaux et lits bébé - Exigences de sécurité et méthodes d'essai

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Ta slovenski standard je istoveten z: **EN 16890:2017**

ICS:

97.140	Pohištvo	Furniture
97.190	Otroška oprema	Equipment for children

SIST EN 16890:2017 **en,fr,de**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16890

May 2017

ICS 97.140; 97.190

English Version

Children's furniture - Mattresses for cots and cribs - Safety requirements and test methods

Mobilier pour jeunes enfants - Matelas pour berceaux et lits à nacelle - Exigences de sécurité et méthodes d'essai

Kindermöbel - Matratzen für Kinderbetten und Krippen - Sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 3 March 2017.

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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-CENELEC Management Centre has the same status as the official versions.

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

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European foreword

This document (EN 16890:2017) 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of an identical text or by endorsement, at the latest by November 2017, and conflicting national standards shall be withdrawn at the latest by November 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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1 Scope

This European Standard specifies safety requirements and test methods for mattresses including mattress bases and mattress toppers, used in children's cots, travel cots, cribs and suspended baby beds, for domestic and non-domestic use.

This European Standard does not apply to mattresses for carry cots and pram bodies, inflatable mattresses, water mattresses and mattresses used for medical purposes.

2 Normative references

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.

EN 71-1, *Safety of toys - Part 1: Mechanical and physical properties*

EN 71-2:2011+A1:2014, *Safety of toys - Part 2: Flammability*

EN 71-3, *Safety of toys — Part 3: Migration of certain elements*

EN 597-1, *Furniture - Assessment of the ignitability of mattresses and upholstered bed bases - Part 1: Ignition source smouldering cigarette*

EN 1334:1996, *Domestic furniture - Beds and mattresses - Methods of measurement and recommended tolerances*

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EN ISO 2439, *Flexible cellular polymeric materials - Determination of hardness (indentation technique) (ISO 2439)*

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EN ISO 13936-2, *Textiles - Determination of the slippage resistance of yarns at a seam in woven fabrics - Part 2: Fixed load method (ISO 13936-2)*

3 Terms and definitions

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

3.1
mattress topper
upholstery product that comprises a cover and filling(s) designed to be used on top of a mattress

3.2
mattress base
cot base and a mattress combined in one component

3.3
foldable mattress base
mattress base specifically designed to be folded for ease of storage, when not in use

4 General test conditions

4.1 Preliminary preparation

The furniture shall be tested as delivered.

Unless otherwise specified, the tests shall be carried out on the same sample.

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Unless otherwise specified by the manufacturer, the sample shall be stored in indoor ambient conditions for at least 24 h immediately prior to testing.

The tests shall be carried out at indoor ambient conditions. However, if during a test the temperature is outside the range 15 °C to 25 °C, the maximum and/or minimum temperature shall be recorded in the test report.

4.2 Application of forces

The test forces in durability and static load tests shall be applied sufficiently slowly to ensure that negligible dynamic load is applied. The forces in durability tests shall be applied sufficiently slowly to ensure that kinetic heating does not occur.

Unless otherwise stated, static forces shall be maintained for (10 ± 2) s. Unless otherwise stated, durability forces shall be maintained for (2 ± 1) s.

The forces may be replaced by masses. The relationship 10 *N* = 1 kg shall be used.

4.3 Tolerances

Unless otherwise stated, the following tolerances apply:

— Forces: ± 5 % of the nominal force;

— Masses: ± 0,5 % of the nominal mass;

— Dimensions: ± 1 mm of the nominal dimension;

— Positioning of loading pads: ± 5 mm;

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NOTE For the purposes of uncertainty measurement, test results are not considered to be adversely affected when the above tolerances are met.

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5 Test equipment

5.1 Measuring table

A horizontal, flat and smooth surface with dimensions sufficient to fully support the mattress in any measuring position. The maximum deflection shall not exceed 1 mm when a force of 1000 N is applied to the table.

5.2 Stops

Stops shall be used to prevent the mattress from sliding by any means which do not affect the test result.

5.3 Square aluminium alloy tube

40 mm in width x 40 mm in height x 2 mm in thickness, approximately 2 m long, having a mass of (1,65 ± 0,012 5) kg.

5.4 Loading pad

Rigid circular object 200 mm in diameter, the face of which has a convex spherical curvature with a radius of 300 mm radius with a 12 mm edge radius (see Figure 1).

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Dimensions in millimetres

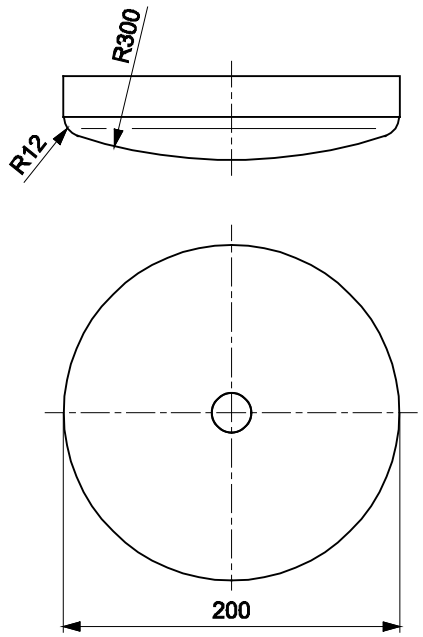

Figure 1 — Loading pad

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5.5 Test template for determination of the indentation depth

The test template shall be made from hard smooth material with the dimensions shown in Figure 2. It shall have a total mass of (0,26 ± 0,01) kg. The edges of the template shall be rounded with a radius of ≤ 0,1 mm and it shall have a hole in its centre with a diameter of (111 ± 0,1) mm, see Figure 2.

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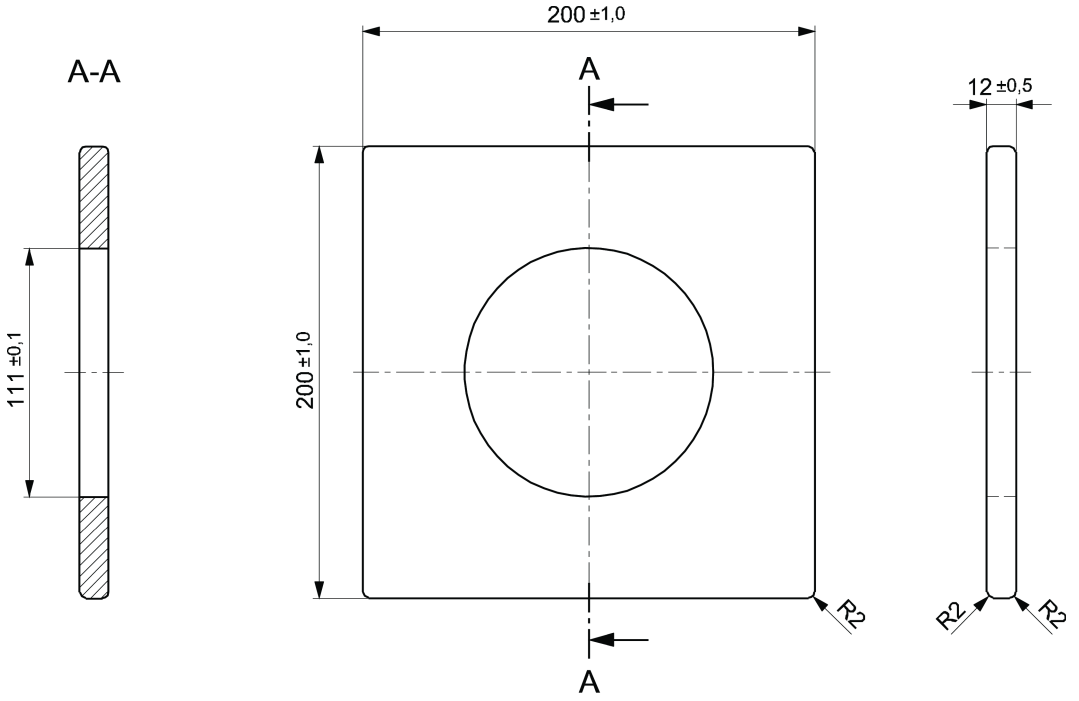
Dimensions in millimetres



a) Intersection view b) Top view c) Side view

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Figure 2 — Test template for determination of firmness

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5.6 Spherical load for determination of the indentation depth

The spherical load shall have a diameter of $115\,^{0}_{-0,5}$ mm and a mass of (2,5 ± 0,012 5) kg.

5.7 Test foam

A layer of flexible PU foam, corresponding to the dimensions of the mattress topper to be tested, having a thickness of 100 mm, a density of (25 ± 2,5) kg/m³ and a hardness of (120 ± 12) N in accordance with $A_{(40\,\%/30s)}$ of EN ISO 2439.

5.8 Small parts cylinder

A cylinder having dimensions as shown in Figure 3.

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Dimensions in millimetres

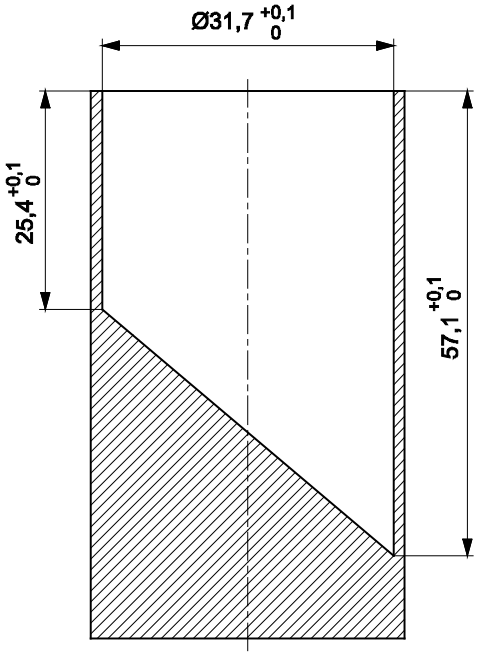

Figure 3 — Small parts cylinder

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5.9 Feeler gauge

A feeler gauge with the dimensions shown in Figure 4.

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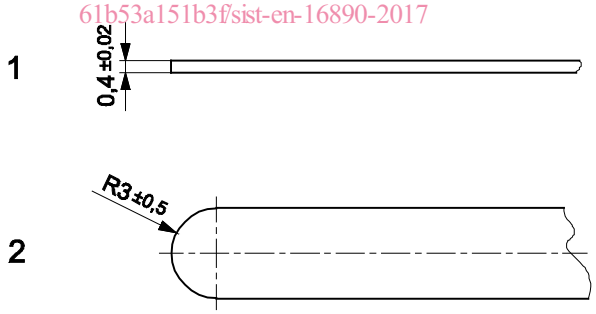
Dimensions in millimetres



Key

1 side view

2 top view

Figure 4 — Feeler gauge

5.10 Cone

There shall be one cone with an angle of 30° ± 0,5° with a diameter of $60\ ^{0,1}_{0}$ mm with conical ends, see Figure 5.