



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 16890:2017

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

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

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

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National Foreword

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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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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of an identical text or by endorsement, at the latest by November 2017, and conflicting national standards shall be withdrawn at the latest by November 2017.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*

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

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.

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 $10\text{ N} = 1\text{ kg}$ shall be used.

4.3 Tolerances

Unless otherwise stated, the following tolerances apply:

- Forces: $\pm 5\%$ of the nominal force;
- Masses: $\pm 0,5\%$ of the nominal mass;
- Dimensions: $\pm 1\text{ mm}$ of the nominal dimension;
- Positioning of loading pads: $\pm 5\text{ mm}$;

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

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 $(1,65 \pm 0,012\ 5)\text{ kg}$.

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).