



BSI Standards Publication

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

---

## National foreword

This British Standard is the UK implementation of EN 16890:2017+A1:2021. It supersedes BS EN 16890:2017, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee FW/0/2, Domestic and Contract Furniture.

A list of organizations represented on this committee can be obtained on request to its committee manager.

BSI, as a member of CEN, is obliged to publish EN 16890:2017 as a British Standard. However, attention is drawn to the fact that during the development of this European Standard, the UK committee voted against its approval as a European Standard.

The UK cannot comply with clause 7, Fire and thermal hazards (see A.3), as it is a legal requirement in the UK for mattresses supplied for domestic use in the UK to comply with the *Furniture and Furnishings (Fire) (Safety) Regulations 1988, No. 1324* and *amendment 1989 No. 2358* and *amendment 2010 No.2205*. Filling materials of cot mattresses fall under the scope of these regulations. The materials shall comply with schedules 1 and 2 of *Statutory Instrument 1988 No.1324*, as amended. Failure to comply can result in prosecution.

### Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

This publication has been prepared under a mandate given to the European Standards Organizations by the European Commission and the European Free Trade Association. It is intended to support requirements of the EU legislation detailed in the European Foreword. A European Annex, usually Annex ZA or ZZ, describes how this publication relates to that EU legislation.

For the Great Britain market (England, Scotland and Wales), if UK Government has designated this publication for conformity with UKCA marking (or similar) legislation, it may contain an additional National Annex. Where such a National Annex exists, it shows the correlation between this publication and the relevant UK legislation. If there is no National Annex of this kind, the relevant Annex ZA or ZZ in the body

of the European text will indicate the relationship to UK regulation applicable in Great Britain. References to EU legislation may need to be read in accordance with the UK designation and the applicable UK law. Further information on designated standards can be found at [www.bsigroup.com/standardsandregulation](http://www.bsigroup.com/standardsandregulation).

For the Northern Ireland market, UK law will continue to implement relevant EU law subject to periodic confirmation. Therefore Annex ZA/ZZ in the European text, and references to EU legislation, are still valid for this market.

UK Government is responsible for legislation. For information on legislation and policies relating to that legislation, consult the relevant pages of [www.gov.uk](http://www.gov.uk).

© The British Standards Institution 2021  
Published by BSI Standards Limited 2021

ISBN 978 0 539 05908 3

ICS 97.140; 97.190

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 September 2017.

#### **Amendments/corrigenda issued since publication**

Date	Text affected
31 May 2019	Correction to supersession details in National Foreword
31 July 2021	Implementation of CEN amendment A1:2021

EUROPEAN STANDARD

**EN 16890:2017+A1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2021

ICS 97.140; 97.190

Supersedes EN 16890:2017

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 and includes Amendment 1 approved by CEN on 23 May 2021.

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

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

<b>Contents</b>		<b>Page</b>
European foreword.....		4
<b>1</b>	<b>Scope .....</b>	<b>5</b>
<b>2</b>	<b>Normative references .....</b>	<b>5</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>5</b>
<b>4</b>	<b>General test conditions .....</b>	<b>6</b>
<b>4.1</b>	<b>Preliminary preparation .....</b>	<b>6</b>
<b>4.2</b>	<b>Application of forces .....</b>	<b>6</b>
<b>4.3</b>	<b>Tolerances .....</b>	<b>6</b>
<b>5</b>	<b>Test equipment.....</b>	<b>6</b>
<b>5.1</b>	<b>Measuring table .....</b>	<b>6</b>
<b>5.2</b>	<b>Stops.....</b>	<b>7</b>
<b>5.3</b>	<b>Square aluminium alloy tube.....</b>	<b>7</b>
<b>5.4</b>	<b>Loading pad.....</b>	<b>7</b>
<b>5.5</b>	<b>Test template for determination of the indentation depth .....</b>	<b>8</b>
<b>5.6</b>	<b>Spherical load for determination of the indentation depth .....</b>	<b>9</b>
<b>5.7</b>	<b>Test foam.....</b>	<b>9</b>
<b>5.8</b>	<b>Small parts cylinder .....</b>	<b>9</b>
<b>5.9</b>	<b>Feeler gauge .....</b>	<b>10</b>
<b>5.10</b>	<b>Cone.....</b>	<b>10</b>
<b>5.11</b>	<b>Probe.....</b>	<b>11</b>
<b>6</b>	<b>Chemical hazards .....</b>	<b>11</b>
<b>7</b>	<b>Fire and thermal hazards (see A.3) .....</b>	<b>11</b>
<b>8</b>	<b>Mechanical hazards .....</b>	<b>11</b>
<b>8.1</b>	<b>Entrapment hazards from gaps and openings (see A.4) .....</b>	<b>11</b>
<b>8.1.1</b>	<b>Entrapment hazards between the mattress and the sides.....</b>	<b>11</b>
<b>8.1.2</b>	<b>Body entrapment hazards.....</b>	<b>12</b>
<b>8.1.3</b>	<b>Entanglement hazards (see A.4.3) .....</b>	<b>13</b>
<b>8.2</b>	<b>External suffocation hazards (see A.4.4) .....</b>	<b>13</b>
<b>8.2.1</b>	<b>Ⓐ Labels and decals on the mattress Ⓐ .....</b>	<b>13</b>
<b>8.2.2</b>	<b>Plastic packaging.....</b>	<b>13</b>
<b>8.2.3</b>	<b>Firmness.....</b>	<b>14</b>
<b>8.3</b>	<b>Choking and internal suffocation hazards (see A.4.5) .....</b>	<b>16</b>
<b>8.3.1</b>	<b>Small parts.....</b>	<b>16</b>
<b>8.3.2</b>	<b>Accessibility to filling materials .....</b>	<b>17</b>
<b>8.4</b>	<b>Hazards due to edges and protrusions (see A.4.6).....</b>	<b>20</b>
<b>8.5</b>	<b>Structural integrity (see A.4.7).....</b>	<b>20</b>
<b>8.5.1</b>	<b>Shrinkage .....</b>	<b>20</b>
<b>8.5.2</b>	<b>Hazards due to deformation of the filling .....</b>	<b>20</b>
<b>9</b>	<b>Product information (see A.4.8) .....</b>	<b>21</b>
<b>9.1</b>	<b>Marking.....</b>	<b>21</b>
<b>9.2</b>	<b>Purchase information.....</b>	<b>21</b>
<b>9.3</b>	<b>Instruction for use .....</b>	<b>22</b>
<b>Annex A (informative) Rationales.....</b>		<b>24</b>

<b>A.1</b>	<b>General</b> .....	<b>24</b>
<b>A.2</b>	<b>Chemical hazards (Clause 6)</b> .....	<b>24</b>
<b>A.3</b>	<b>Thermal hazards (Clause 7)</b> .....	<b>24</b>
<b>A.4</b>	<b>Mechanical hazards (Clause 8)</b> .....	<b>25</b>
<b>A.4.1</b>	<b>General</b> .....	<b>25</b>
<b>A.4.2</b>	<b>Entrapment hazards (8.1)</b> .....	<b>25</b>
<b>A.4.3</b>	<b>Entanglement hazards (8.1.3)</b> .....	<b>25</b>
<b>A.4.4</b>	<b>Suffocation hazards (8.2)</b> .....	<b>25</b>
<b>A.4.5</b>	<b>Choking and ingestion hazards (8.3)</b> .....	<b>25</b>
<b>A.4.6</b>	<b>Hazardous edges and protrusions (8.4)</b> .....	<b>26</b>
<b>A.4.7</b>	<b>Structural integrity (8.5)</b> .....	<b>26</b>
<b>A.4.8</b>	<b>Product information (Clause 9)</b> .....	<b>26</b>
<b>Annex B (informative)</b>	<b>Colorants</b> .....	<b>27</b>
<b>B.1</b>	<b>Rationale</b> .....	<b>27</b>
<b>B.2</b>	<b>Colorants</b> .....	<b>27</b>
<b>B.3</b>	<b>Colour fastness to perspiration</b> .....	<b>27</b>
<b>Annex C (informative)</b>	<b>A-deviations</b> .....	<b>28</b>
<b>Ⓐ</b>	<b>Annex ZA (informative) Relationship between this European Standard and the safety requirements of Directive 2001/95/EC aimed to be covered</b> .....	<b>30</b>
	<b>Bibliography</b> .....	<b>35</b>

## European foreword

This document (EN 16890:2017+A1:2021) 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 December 2021, and conflicting national standards shall be withdrawn at the latest by December 2021.

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.

This document includes Amendment 1 approved by CEN on 23 May 2021.

This document supersedes A1 EN 16890:2017 A1

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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

## 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 71-1:2014+A1:2018, *Safety of toys - Part 1: Mechanical and physical properties* ⓘ

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

ⓘ

EN 71-3:2019, *Safety of toys - Part 3: Migration of certain elements*

EN 597-1:2015, *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 1730:2012, *Furniture - Tables - Test methods for the determination of stability, strength and durability*

EN ISO 2439:2008, *Flexible cellular polymeric materials - Determination of hardness (indentation technique) (ISO 2439:2008)*

EN ISO 13936-2:2004, *Textiles - Determination of the slippage resistance of yarns at a seam in woven fabrics - Part 2: Fixed load method (ISO 13936-2:2004)* ⓘ

## 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

#### **woven fabric**

fabric produced by interlacing (by weaving on a loom or weaving machine) a set of warp threads and a set of weft threads normally at right angles to each other