

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Amendment No. 1
to
AS/NZS 2130:1998
Cots for day nursery, hospital and institutional use—Safety requirements

CORRECTION

The 1998 edition of AS/NZS 2130 is amended as follows; the amendment(s) should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Title page, Figures 5 and 6 and Clauses 7.9 and 7.11.

Published on 5 August 1997.

AMDT
No. 1
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Page 1 Title page

Delete the 3rd, 4th, 5th and 6th lines of the history block.

AMDT
No. 1
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1998

Page 10 Clause 7.9

Delete 'Figure 5' at the end of the Clause and *substitute* 'Figure 4'.

AMDT
No. 1
AUG.
1998

Page 10 Clause 7.11

Delete 'Figure 6' at the end of the Clause and *substitute* 'Figure 5'.

AMDT
No. 1
AUG.
1998

Page 11 Figure 5, Title

Delete 'Figure 5' in the title and *substitute* 'Figure 4'.

AMDT
No. 1
AUG.
1998

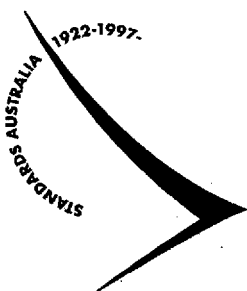
Page 12 Figure 6, Title

Delete 'Figure 6' in the title and *substitute* 'Figure 5'.

AS/NZS 2130:1998

Australian/New Zealand Standard[®]

**Cots for day nursery, hospital
and institutional use—Safety
requirements**



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AS/NZS 2130:1998

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee CS/3, Safety of Children's Furniture. It was approved on behalf of the Council of Standards Australia on 30 September 1997 and on behalf of the Council of Standards New Zealand on 11 November 1997. It was published on 5 January 1998.

The following interests are represented on Committee CS/3:

Australasian Furnishing Research and Development Institute
 Australian Chamber of Commerce and Industry
 Australian Chamber of Manufacturers
 Australian Retailers Association
 Commonwealth Department of Health and Family Services
 Department of Fair Trading N.S.W., Consumer Protection Agency
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 New Children's Hospital, N.S.W.
 New Zealand Association of Safety Equipment Testing Laboratories
 New Zealand Furniture Manufacturers Federation
 N.S.W. Health Department
 Office of Consumer and Business Affairs, S.A.
 Office of Consumer Affairs, Qld
 Office of Consumer Affairs, Tas.
 Office of Fair Trading and Business Affairs, Vic.
 South Australian Health Commission

Additional interests participating in preparation of Standard:

A.C.T. Community and Health Service
 Canberra Hospital
 Manufacturers of cots for nursery, hospital and institutional use
 Princess Alexandra Hospital, Qld
 Royal Childrens Hospital, Vic.

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AS/NZS 2130:1998

Australian/New Zealand Standard[®]

**Cots for day nursery, hospital
and institutional use—Safety
requirements**

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CS/3, Safety Requirements for Children's Furniture to supersede AS 2130—1981 and NZS 5810:1992.

The objective of this Standard is to provide regulatory authorities with essential safety requirements for cots used in day nurseries, hospitals and institutions, and to provide manufacturers with functional durability, stability and performance criteria to meet these safety requirements, in order to reduce the likelihood of deaths or injuries to children.

The first edition of this Standard was AS 2130—1978. The document underwent a revision in 1981 to incorporate more stringent strength and durability requirements. The first edition of NZS 5810 in 1979 was an endorsement of BS 1753:1977 with a minor amendment, followed in 1992 by the second edition and an endorsement of AS 2172—1991, again with a minor amendment.

This joint edition brings dimensions and other requirements into alignment with AS/NZS 2172:1995 *Cots for household use—Safety requirements*. Extra requirements have been placed on the finish of the cot in recognition of the importance of keeping the structure free of microorganisms, and plastic has been added as a material suitable for constructing hospital and institutional cots. This Standard is based on the British Standard, BS 1694:1990, *Specification for hospital ward cots for children*. During preparation the Committee also considered South African Standard, SABS 521:1991, *Hospital beds and cots*.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

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FOREWORD

To minimize the risk of a child climbing out of the cot it is important to maintain the minimum distance of 600 mm between the top of the mattress base and the top edge of the lowest cot side or end when the access is closed.

The minimum vertical distance specified between the top of the mattress base, i.e. with no mattress, and the top edge of the lowest cot side or end, is based on the use of a mattress 100 mm thick. A mattress thicker than 100 mm will require a corresponding increase in this vertical distance to compensate. The marking and labelling should be as clear and conspicuous as possible, to achieve its purpose.

In view of the supervised hospital or institutional situation, and to facilitate access to the child/patient for medical procedures, transfer, cleaning and bedmaking, it was found to be necessary to allow total access to the child/patient by allowing the top of the dropside, when in the lower position, to be lower than the top surface of the mattress. It is of course anticipated that the dropside will only be in the lower position when the carer is directly supervising the child.

Appendices H and I list optional features of cots that are not required to comply with this Standard, unless attached to the cot, and also give guidance on cot design and surface finish.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard**Cots for day nursery, hospital and institutional use—
Safety requirements**

1 SCOPE This Standard specifies safety requirements for cots for hospitals, day nurseries and institutions. These requirements include material, design, construction, performance, labelling and marking, all of which are important for the well-being of children who use cots. The Standard applies to metal or plastic cots but not timber cots due to the nature of the intended environment and the need for ease of cleaning. It does not include requirements for buffering of cots nor for the mattress. Attachments or accessories designed for use on hospital or institutional cots are covered by this Standard when fitted to the cot. The Standard does not specify requirements for folding cots.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

- | | |
|--------------|---|
| 1192 | Electroplated coatings—Nickel and chromium |
| 1580 | Paints and related materials—Methods of test |
| 1580.406.1 | Method 406.1: Resistance to impact—Falling weight test (Gardner-type tester) |
| 1580.408.4 | Method 408.4: Adhesion (cross-cut) |
| 1580.481.1.9 | Method 481.1.9: Coatings—Exposed to weathering—Degree of blistering |
| 1580.481.3 | Method 481.3: Coatings—Exposed to weathering—Degree of corrosion of coated metal substrates |
| 1647 | Children's toys (Safety requirements) |
| 1647.2 | Part 2: Constructional requirements |
| 1647.3 | Part 3: Toxicological requirements |
| 1789 | Electroplated coatings—Zinc on iron or steel |
| 1956 | Anodic oxidation coatings on aluminium for decorative and automotive applications |
| 2281 | Flexible cellular polyurethane for seat cushioning and bedding |
| 2331 | Methods of test for metallic and related coatings |
| 2331.3.1 | Method 3.1: Corrosion and related property tests—Neutral salt spray (NSS) test |

AS/NZS

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| 1580 | Paints and related materials—Methods of test |
| 1580.405.1 | Method 405.1: Determination of pencil hardness of paint film |
| 4506 | Metal finishing—Thermoset powder coatings |

NZS

- | | |
|------|--------------------------------------|
| 5820 | Specification for the safety of toys |
|------|--------------------------------------|

3 DEFINITIONS For the purpose of this Standard, the definitions below apply.

NOTE: All definitions apply to fully-assembled cots.

3.1 Access—opening obtained by operating a part or parts of a cot to allow easier entry to the inside of the cot (see Figure 1).

3.2 Gap—an opening bounded by solid components of the cot and complying with Clause 10.2.

3.3 Dropside—a component of a cot, so constructed and incorporated into the cot that it can slide up and down in order to close off or provide access.

NOTE: See Clause 3.1 for a definition of access.

3.4 Dropside mechanism—a system of guide-rods, slides or other devices including stops, which allows the dropside to slide up and down.

3.5 Filler bars or filler panels—the vertical bars or panels in the end or side frames of the cot (see Figure 1).

3.6 Access fastening device—a means by which the cot component that creates the access is held closed.

3.7 Mattress base—the surface on which the cot mattress is supported.

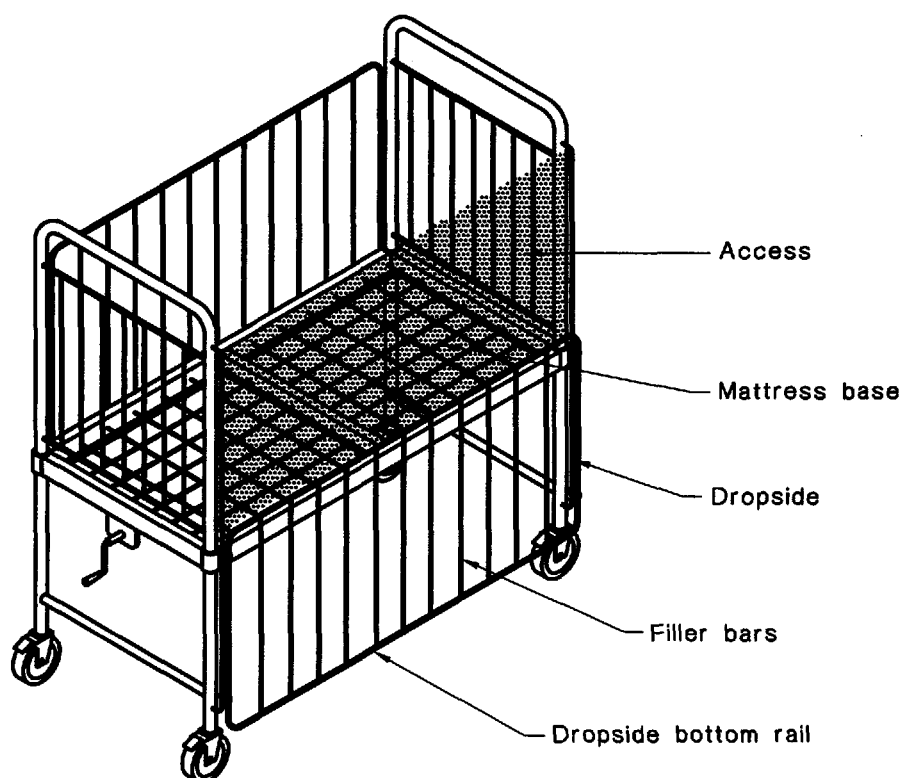


FIGURE 1 A TYPICAL COT

4 MATERIALS

4.1 General All cots shall be constructed of metal, plastic or any similar material that complies with all requirements of this Standard. All components, including springs, nuts, bolts and washers shall be either made of corrosion-resistant material or be protected against corrosion.

NOTE: See Clause 5 for tests relating to corrosion resistance and cot finish. Paint or powder coatings are two acceptable methods of corrosion protection for metal cots.

4.2 Aluminium Aluminium frames shall be anodized to comply with Grade 4 conditions specified in AS 1956 or suitably painted to comply with Clause 4.5 if powder coated.

4.3 Nickel and chromium plating Nickel and chromium electroplating shall comply with Service Condition No. 1 specified in AS 1192.

4.4 Zinc plating Zinc plating shall comply with Service Condition No. 1 specified in AS 1789.

4.5 Coatings Painted, epoxy powder or nylon powder coatings and plastic cots and components shall:

- (a) Comply with the relevant toxicological requirements specified in AS 1647.3 or NZS 5820.
- (b) Be glossy and uniform in colour.
- (c) On covered metal surfaces be covered completely uniformly and be free of grittiness and cratering. In addition epoxy powder coating shall be 50 µm thick.

NOTE: For testing for tropical conditions refer to AS/NZS 4506.

5 FINISH

5.1 General All surfaces shall be uniform, clean, smooth and free from pits, deep scratches, scale or any other defects. Unplated mild steel surfaces shall have a painted, epoxy powder or nylon powder-coated finish. Stainless steel surfaces shall have a medium directional satin finish or a bright polished finish. Plastic cots shall have a smooth finish with no rough edges.

5.2 Scratch resistance When tested in accordance with the test for pencil hardness in AS/NZS 1580.405.1, surface finishes shall withstand the test to a hardness of F.

5.3 Impact resistance When tested in accordance with the test for resistance to impact in AS 1580.406.1, Method A, surface finishes shall show no loss of adhesion.

5.4 Salt spray resistance The following shall apply to all metal surface finishes:

- (a) When tested in accordance with Appendix A, the undercut at scribed lines shall be not more than 2 mm max. on either side of the scored marks.
- (b) When tested in accordance with AS 1580.408.4, loss of adhesion (cross-cut) shall not be worse than classification 1.
- (c) When tested in accordance with AS 1580.481.1.9, blistering shall not be worse than rating 1, S2.
- (d) When tested in accordance with AS 1580.481.3, there shall be no visible corrosion (i.e. rating of 0).

6 CONSTRUCTION

6.1 General All components of the cot shall—

- (a) be permanently fixed; or
- (b) require the use of a tool to enable partial or total disassembly; or
- (c) require a series of integrated procedures each of which is dependent on the other for assembly/disassembly.

NOTE: The intention of Clause 6.1 is to prevent possible tampering by a child.

All joints shall be close fitting.

6.2 Welds and joints The parts of all permanent joints shall be close fitting and the joints shall be securely welded. The welds and all other parts shall be smooth and free from flux, slag and spatter before a finishing coat is applied. Riveted joints shall be close fitting and shall be tightly closed. Open-ended tubes shall be closed by a tight fitting cap, a cover plate or a plug that is welded to the tube and remains intact when the tube flexes under load.

7 DESIGN

7.1 Dimensions Except where otherwise permitted in this Standard, the following dimensions shall apply (also see Figure 1):

- (a) The vertical distance between the top of the mattress base and the top edge of the lowest cot side or end when the access is closed, shall not be less than
 600 mm (min.)
 (See Figure 2).

- (b) Distance between adjacent filler bars 50 mm (min.)
 85 mm (max.)

In addition, the filler bars shall not allow the 95 mm diameter probe to pass through when tested in accordance with Appendix B.

- (c) Distance between the mattress at its centred position (complying with the recommended size specified in Clause 12(b)) and any part of the cot sides or ends measured horizontally (see Figure 2) 25 mm (max.)

- (d) Distance between the bottom rail of the dropside and the mattress base (measured horizontally) 12 mm (min.)
 30 mm (max.)
 (See Figure 3).

- (e) Distance between the floor and the bottom edge of the dropside in its lowest position shall not be less than 50 mm (min.)
 (See Figure 3).

- (f) Distance of the top of the dropside above the top of the mattress base when the access is open shall be 25 mm (min.)
 50 mm (max.)
 (See Figure 3).

NOTE: The intention of the dimensions in Clause 7.1(f) are that when the dropside is down, the mattress should be retained on the mattress base (i.e. not easily slide off), that easy access to the child in an emergency or for certain procedures is possible without the child's head contacting with the top of the dropside and to enable easy access to the underside of the mattress for bedmaking.

7.2 Footholds There shall be no structural members or components on cot sides or ends which could be used as footholds or toeholds for climbing.

NOTE: This requirement is intended to prevent the child from possibly falling out of the cot by ensuring that no horizontal bars or other features that may reduce the effective cot depth occur.

7.3 Access fastening device The access fastening device shall be designed so that a child cannot open the device. This requirement may be complied with, in one of the following ways:

- (a) By having two fastening devices designed so that simultaneous operations are required at each end of the cot to release the devices.
 (b) For a dropside cot, by making it necessary to lift the dropside before the fastening devices can be released.
 (c) By so positioning the device that it is inaccessible to the child in the cot.

NOTE: The intention of this Clause is to prevent the dropside from being released by a child.

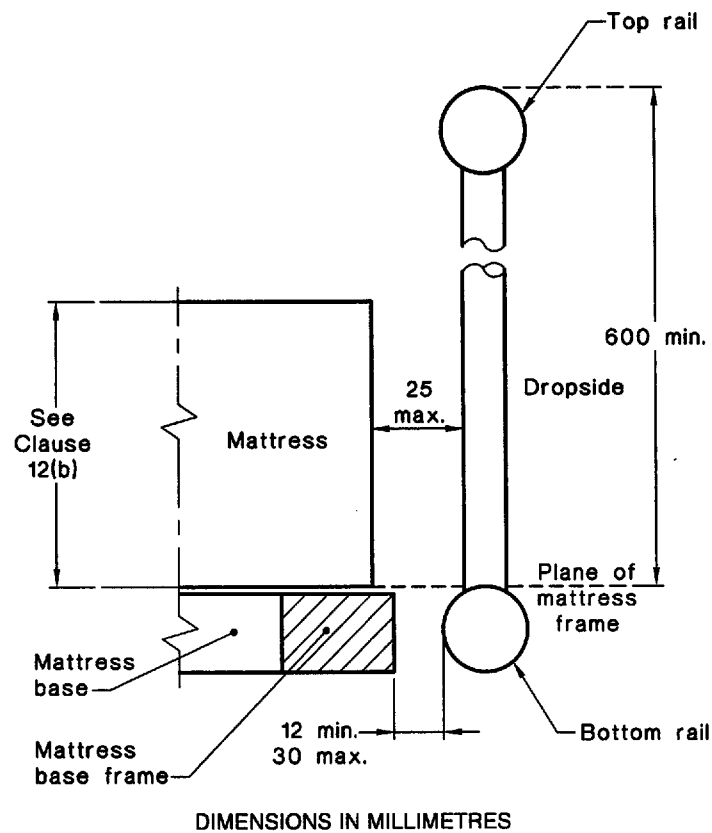


FIGURE 2 DIMENSION BETWEEN MATTRESS BASE AND COT SIDES AND ENDS WITH DROPSIDE IN RAISED POSITION (ACCESS CLOSED)

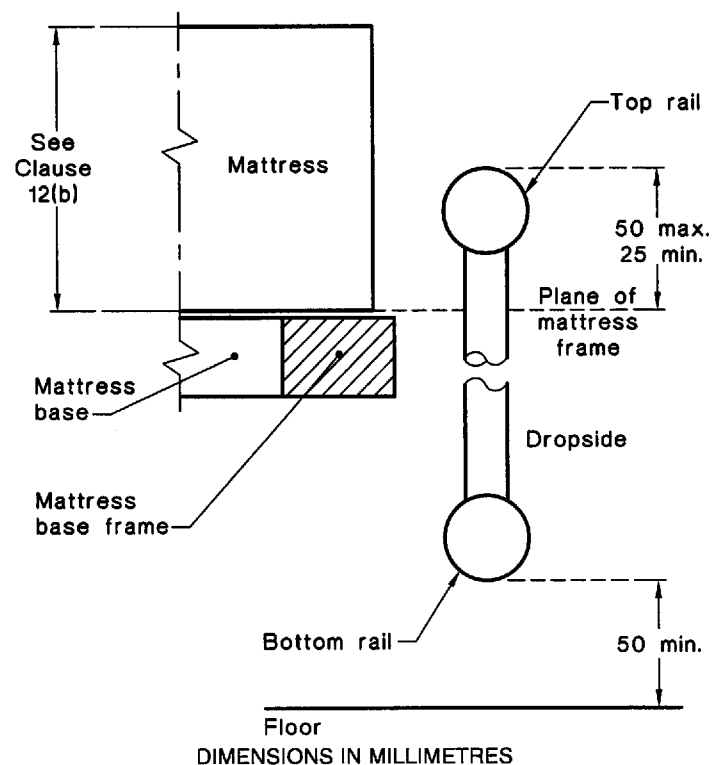


FIGURE 3 DIMENSIONS BETWEEN MATTRESS BASE AND COT SIDES AND ENDS WITH DROPSIDE IN LOWER POSITION (ACCESS OPEN)