AS 5407.1:2025

Australian STANDARD®

STANDARDS Australia

Methods of testing infant sleep surfaces

Method 1: Test for firmness and flatness



AS 5407.1:2025

This Australian Standard® was prepared by CS-310, Child Care Articles. It was approved on behalf of Standards Australia's Standards Development and Accreditation Committee on 12 June 2025.

This Standard was published on 27 June 2025.

The following are represented on Committee CS-310:

Australian Chamber of Commerce and Industry
Australian Competition and Consumer Commission
Australian Industry Group
Australian Retailers Association
Australian Toy Association
CHOICE
Consumers' Federation of Australia
Furntech — Australasian Furnishing Research and Development Institute
Infant and Nursery Products Alliance of Australia (INPAA)
Intertek Group
Kidsafe Australia
National Retail Association Australia
Office of Fair Trading (Qld)
Public Health Association of Australia
Queensland Injury Surveillance Unit
Red Nose Australia
Wellbeing South Australia

This Standard was issued for comment as DR AS 5407.1:2024

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals and new products by visiting:

www.standards.org.au

ISBN: 978 1 76175 266 7

Australian Standard®

Methods of testing infant sleep surfaces

Method 1: Test for firmness and flatness

Originated as AS/NZS 8811.1:2013.
Revised and redesignated as AS 5407.1:2025.

© Standards Australia Limited 2025

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth).

How to read this Standard

This page explains the meaning of the language and structure of this Standard.

Refer to Standards Australia's Standardisation Guide 006 for more details about drafting rules.

Australian and Australian/New Zealand Standards are voluntary unless they are referenced in legislation or called up in contracts.

Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

Recommendations, permissions and possibilities

The following words are commonly used in Standards, but statements using them do not have to be followed to conform to the Standard:

(a) "should" means that something is recommended.

(b) "may" means that something is permitted.

(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply.

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

Preface

This Standard was prepared by Standards Australia Committee CS-310, Child Care Articles, to supersede AS/NZS 8811.1:2013, *Methods of testing infant products, Method 1: Sleep surfaces — Test for firmness*.

This document sets out the methods for assessing whether an essentially flat infant sleep-related surface of a minimum specified width and length exhibits excessive compression when subjected to a force applied through a standard load pad. This document also sets out the methods for assessing potentially hazardous raised areas on the infant sleep-related surface.

The major change in this edition is the introduction of a method to adjust for billowing of the sleep-related surface.

© Standards Australia Limited 2025

Contents

Page

Preface ..... **v**
Introduction ..... **vii**
1 Scope **1**
2 Application **1**
3 Normative references **1**
4 Terms and definitions **1**
5 Principle **2**
6 Apparatus **3**
6.1 Disc apparatus 3
6.2 Guided, L-shaped depressor for raised, billowed areas 3
7 Conditioning **4**
8 Procedure **5**
8.1 Firmness test 5
8.1.1 General 5
8.1.2 Test method 5
8.2 Raised, billowed areas 6
9 Test report **7**

© Standards Australia Limited 2025

Introduction

Over a period of many years, an association between infant mortality and overly soft sleep surfaces has become established in the medical literature.

Expert advice to caregivers, nationally and internationally, historically specified a “firm” sleep surface, without quantifying the minimum acceptable firmness or a method for determining it. This document addresses those gaps by presenting test methods and associated performance requirements for infant sleep-related surfaces where an infant might be reasonably expected to fall asleep on, or against, a surface in a relevant product (e.g. cot, crib, pram, infant cocoon, infant sleep mat, bassinet, cradle, carry-cot, portable cot, etc.).

© Standards Australia Limited 2025

NOTES

Australian Standard®

Methods of testing infant sleep surfaces

Method 1: Test for firmness and flatness

1 Scope

This document sets out the methods for assessing whether an essentially flat infant sleep-related surface of a minimum specified width and length exhibits excessive compression when subjected to a force applied through a standard load pad.

2 Application

These test methods are intended to be referenced by relevant product-safety standards. Where no standard exists for a particular product type, the test methods can nevertheless be used to identify hazardous softness in a sleep-related surface, corresponding approximately to a threefold excess risk of death.

The methods can also be used to assess raised areas on the surface that have the potential to compromise an infant's airway. A test method for infant sleep-related surfaces that are smaller than the minimum specified for this document is presented in AS 5407.2.

The test methods specified in this document are not appropriate for slings, hammocks and other such devices that support an infant by suspension. Furthermore, the test methods are not appropriate for curved sleep-related surfaces. For such curved surfaces the relevant test method is presented in AS 5407.2.

3 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

AS 5407.2, *Methods of testing infant sleep surfaces, Method 2: Test for firmness of objects that cannot be tested to AS 5407.1*

4 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

(a) IEC Electropedia: available at https://www.electropedia.org/

(b) ISO Online browsing platform: available at https://www.iso.org/obp

4.1
billowing
raised area on the sleep-related surface due to puffing of the covering fabric

4.2
may
indicates the existence of an option

© Standards Australia Limited 2025