



Designation: F2933 – 21a

Standard Consumer Safety Specification for Crib Mattresses¹

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1. Scope

1.1 This consumer safety specification establishes design requirements, testing requirements and methods, and requirements for labeling for full-size crib mattresses, non-full-size crib mattresses, and after-market mattresses for play yards and non-full size cribs.

1.2 No crib mattress produced after the approval date of this consumer safety specification shall, either by label or other means, indicate compliance with this specification unless it conforms to all requirements contained herein.

1.3 *Units*—The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

- D3359 Test Methods for Rating Adhesion by Tape Test
- F406 Consumer Safety Specification for Non-Full-Size Baby Cribs/Play Yards
- F1169 Consumer Safety Specification for Full-Size Baby Cribs

¹ This consumer safety specification is under the jurisdiction of ASTM Committee F15 on Consumer Products and is the direct responsibility of Subcommittee F15.66 on Crib Mattresses.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

F2194 Consumer Safety Specification for Bassinets and Cradles

2.2 Federal Standards:³

- 16 CFR 1303 Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint
- 16 CFR 1500.48 Technical Requirements for Determining a Sharp Point in Toys and Other Articles for Use by Children Under Eight Years of Age
- 16 CFR 1500.49 Technical Requirements for Determining a Sharp Metal or Glass Edge in Toys or Other Articles Intended for Use by Children Under Eight Years of Age
- 16 CFR 1501 Method for Identifying Toys and Other Articles Intended for Use by Children Under Three Years of Age Which Present Choking, Aspiration or Ingestion Hazards Because of Small Parts
- 16 CFR 1219 Requirements for Full-Size Baby Cribs
- 16 CFR 1220 Requirements for Non-Full-Size Baby Cribs
- 16 CFR 1632 Standard for the Flammability of Mattresses and Mattress Pads
- 16 CFR 1633 Standard for the Flammability (Open Flame) of Mattress Sets
- Consumer Product Safety Improvement Act of 2008 (CPSIA)

2.3 Other Standards:

- ANSI Z535.4 – 2011 Product Safety Signs And Labels⁴

3. Terminology

3.1 Definitions:

3.1.1 *after-market mattress for play yard or non-full-size crib, n*—a mattress sold or distributed for a play yard or non-full-sized crib.

3.1.1.1 *Discussion*—This does not include a replacement mattress provided or sold by an original equipment manufacturer (OEM) if, and only if, it is equivalent with respect to dimensions, and specifications to the mattress that was provided with the original product.

3.1.2 *conspicuous, adj*—visible, when the mattress is being handled by a consumer placing the mattress in its intended use position in a product.

³ Available from the U.S. Government Printing Office, Superintendent of Documents, 732 N. Capital St., NW, Washington, DC 20402-0001.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

3.1.3 *core, n*—main support system that may be present in a mattress, such as springs, foam, hair block, or resilient filling.

3.1.4 *crib, n*—bed that is designed to provide sleeping accommodations for an infant which have specific interior dimensions as determined by it being either a full size or non-full size crib:

3.1.4.1 *full size crib, n*—52 $\frac{3}{8}$ in. $\pm$ $\frac{5}{8}$ in. (1330 mm $\pm$ 16 mm); Width 28 in. $\pm$ $\frac{5}{8}$ in. (711 mm $\pm$ 16 mm) (as defined in 16 CFR 1219 and Consumer Safety Specification **F1169**).

3.1.4.2 *non-full size crib, n*—interior length dimension either greater than 55 in. (1397 mm) or smaller than 49 $\frac{3}{4}$ in. (1264 mm) or an interior width dimension either greater than 30 $\frac{5}{8}$ in. (778 mm) or smaller than 25 $\frac{3}{8}$ in. (645 mm) or both (as defined in 16 CFR 1220 and ASTM **F406**).

3.1.5 *mattress, n*—ticking filled with a resilient material used alone or in combination with other products intended or promoted for sleeping on it.

3.1.5.1 *Discussion*—For the purpose of this consumer safety specification, this term includes crib mattresses and non-full-size crib mattresses.

3.1.6 *non-paper label, n*—any label material (such as plastic or metal) that either will not tear without the aid of tools or tears leaving a sharply defined edge.

3.1.7 *paper label, n*—any label material that tears without the aid of tools and leaves a fibrous edge.

3.1.8 *surface, n*—side of a mattress that is intended for sleeping on it and can be tested.

3.1.9 *ticking, n*—outermost layer of fabric or related material that encloses the core and upholstery materials of a mattress.

3.1.9.1 *Discussion*—A mattress ticking may consist of several layers of fabric or related materials quilted together.

3.1.10 *upholstery material, n*—all material, either loose or attached, between the mattress ticking and the core of a mattress, if a core is present.

4. Calibration and Standardization

4.1 All testing shall be conducted on a rigid and level surface unless the test instructions are different.

4.2 The product shall be completely assembled, unless otherwise noted, in accordance with the manufacturer's instructions.

4.3 The product to be tested shall be in a room with an ambient temperature of 73 °F $\pm$ 9 °F (23 °C $\pm$ 5 °C) for at least 8 h before testing. Testing shall then be conducted within this temperature range.

4.4 All testing required by this specification shall be conducted on the same product unless otherwise specified.

5. General Requirements

5.1 There shall be no hazardous points or edges as defined by 16 CFR 1500.48 and 16 CFR 1500.49 before and after testing to this consumer safety specification.

NOTE 1—Mattresses that do not have any exterior components other than ticking (for example, vents, vibrating motors, zippers, and so forth)

or any protruding components are considered exempt from these requirements.

5.2 There shall be no small parts as defined by 16 CFR 1501 before testing or liberated as a result of testing to this consumer safety specification.

5.3 Any paint and surface coatings on the product shall comply with 16 CFR 1303.

5.4 *Openings*—Holes or slots that extend entirely through a wall section of any rigid material less than 0.375 in. (9.53 mm) thick and admit a 0.210-in. (5.33-mm) diameter rod shall also admit a 0.375-in. (9.53-mm) diameter rod. Holes or slots that are between 0.210 and 0.375 in. (5.33 and 9.53 mm) and have a wall thickness less than 0.375 in. (9.53 mm), but are limited in depth to 0.375 in. (9.53 mm) maximum by another rigid surface, shall be permissible. The product shall be evaluated in all the manufacturer's recommended use positions.

5.4.1 This requirement applies to vents, zipper tabs, and any other rigid components that may be designed into a mattress.

5.5 Labeling:

5.5.1 Warning labels (whether paper or non-paper) shall be permanent when tested in accordance with **6.1**. Non-coated paper warning label shall not be applied on either side of sleeping surface.

NOTE 2—Non-coated paper label may absorb water and can deteriorate.

5.5.2 Warning statements applied directly onto the surface of the mattress by hot stamping, heat transfer, printing, and so forth shall be permanent when tested in accordance with **6.1.4**.

5.5.3 Non-paper labels shall not liberate small parts when tested in accordance with **6.1.5**.

5.6 Mattress Dimensions:

5.6.1 Full-Size Crib Mattresses:

5.6.1.1 *Mattress Size*—The dimensions of a full-size crib mattress shall measure at least 27 $\frac{1}{4}$ in. (690 mm) wide and 51 $\frac{5}{8}$ in. (1310 mm) long when tested in accordance with **6.2**.

5.6.2 Non-Full-Size Crib Mattresses:

5.6.2.1 *Mattress Size*—The dimensions of a mattress supplied with a non-full-size baby crib shall be such that the mattress, when inserted in the center of the crib, in a non-compressed state at any of the adjustable positions of the mattress support, shall not leave a gap of more than $\frac{1}{2}$ in. (12.7 mm) at any point between the perimeter of the mattress and the perimeter of the crib. When the mattress is placed against the perimeter of the crib, the resulting gap shall not exceed 1.0 in. (25.4 mm).

5.6.2.2 Mattress Thickness:

(1) A mattress supplied with a non-full-size crib shall, in a non-compressed state, have a thickness that will provide a minimum effective crib-side height dimension of at least 20 in. (508 mm) as measured from the upper surface of the mattress to the upper surface of the crib side or end panel. For this measurement, the crib side shall be in its highest adjustable position and the mattress support in its lowest adjustable position.

(2) A mattress supplied with a non-full-size crib shall, in a non-compressed state, have a thickness that will provide a minimum effective crib-side height dimension of at least 3 in.