



Designation: F1821 – 19^{ε1}

Standard Consumer Safety Specification for Toddler Beds¹

This standard is issued under the fixed designation F1821; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

^{ε1} NOTE—Editorially corrected Section 7 in August 2019.

INTRODUCTION

This consumer safety specification addresses toddler bed incidents that were identified by the Consumer Product Safety Commission (CPSC).

In response to incident data supplied by the commission, this consumer safety specification attempts to minimize: entrapment in bed end structures, entrapment between the guardrail and side rail, and entrapment in the mattress support system. Entrapment of a child's head or neck can result in asphyxiation. It also addresses corner post extensions, which may catch pacifier cords, ribbons, necklaces, or clothing that a child may be wearing and which may be caught on a projection.

This consumer safety specification is written in accordance with the current available state-of-the-art technology and will be updated whenever substantive information becomes available that necessitates additional requirements or justifies a revision to existing requirements.

1. Scope

1.1 This consumer safety specification covers requirements for the design and performance of toddler beds. It also contains requirements for labeling and instructional material.

1.2 This consumer safety specification is intended to minimize incidents to children resulting from normal use and reasonably foreseeable misuse of toddler beds. It does not address incidents resulting from alteration or unreasonable misuse.

1.3 For the purposes of this consumer safety specification, a toddler bed is a bed that is sized to accept a full-size crib mattress and is intended for use by a child not less than 15 months of age and who weighs no more than 50 lb (22.7 kg).

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

1.5 This consumer safety specification includes the following sections:

Scope	Section 1
Referenced Documents	Section 2
Terminology	Section 3
Calibration and Standardization	Section 4
General Requirements	Section 5
Performance Requirement	Section 6
Test Methods	Section 7
Marking and Labeling	Section 8
Instructional Literature	Section 9
Keywords	Section 10

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

1.7 The following safety hazards caveat pertains only to the test methods portion, Section 7, of this consumer safety specification: *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.*

1.8 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the*

¹ This consumer safety specification is under the jurisdiction of ASTM Committee F15 on Consumer Products and is the direct responsibility of Subcommittee F15.18 on Cribs, Toddler Beds, Play Yards, Bassinets, Cradles and Baby Changing Products.

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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
 - D3574** Test Methods for Flexible Cellular Materials—Slab, Bonded, and Molded Urethane Foams
 - F1169** Consumer Safety Specification for Full-Size Baby Cribs
- ### 2.2 Code of Federal Regulations:³
- 16 CFR 1303** Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint
 - 16 CFR 1500** Hazardous Substances Act Regulations, including the following sections:
 - 16 CFR 1500.48** Technical Requirements for Determining a Sharp Point in Toys and Other Articles Intended for Children Under 8 Years of Age
 - 16 CFR 1500.49** Technical Requirements for Determining a Sharp Metal or Glass Edge in Toys and Other Articles Intended for Children Under 8 Years of Age
 - 16 CFR 1500 .50 -.53** Test Method for Simulating Use And Abuse of Toys and Other Articles Intended for Use By Children
 - 16 CFR 1501** Method for Identifying Toys and Other Articles Intended for Use by Children Under 3 Years of Age Which Present Choking, Aspiration or Ingestion Hazards Because of Small Parts

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

- 3.1.1 *bed*, *n*—for the purpose of this specification, a toddler bed, as described in 3.1.2.
- 3.1.2 *bed, toddler*, *n*—for the purpose of this specification, any bed sized to accommodate a full-size crib mattress having minimum dimensions of 51 $\frac{1}{8}$ in. (1310 mm) in length and 27 $\frac{1}{4}$ in. (690 mm) in width and is intended to provide free access and egress to a child not less than 15 months of age and who weighs no more than 50 pounds (22.7 kg).
- 3.1.3 *corner post*, *n*—vertical post located at the corner of a product.
- 3.1.4 *end structure*, *n*—an upright structure at the head or foot of a bed to which the side rails or mattress support system, or both, attach.
- 3.1.5 *guardrail*, *n*—of a bed, a rail attached to a bed intended to help prevent a sleeping occupant from rolling, sliding, or otherwise falling out of the long side of the bed.
- 3.1.6 *manufacturer's recommended use position*, *n*—any position that is presented as a normal, allowable, or acceptable configuration for the use of the product by the manufacturer in

any descriptive or instructional literature. This specifically excludes positions that the manufacturer shows in a like manner in its literature to be unacceptable, unsafe, or not recommended.

3.1.7 *mattress support system*, *n*—those components of a bed structure that support the mattress.

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

3.1.9 *paper labels*, *n*—any label which tears without the aid of tools and leaves a fibrous edge.

3.1.10 *partially bounded openings*, *n*—any opening in a toddler bed that is not totally enclosed by boundaries on all sides so that the perimeter of the opening is discontinuous.

3.1.11 *permanent marking*, *n*—a marking or label that, during an attempt to remove it manually without the aid of tools or solvents, cannot be removed or tears upon removal, or such action damages the surface to which it is attached.

3.1.12 *removable guardrail*, *n*—a guardrail that can be removed without the use of tools.

3.1.13 *seam*, *v*—a means of joining fabric components, such as sewing, welding, heat sealing, or gluing.

3.1.14 *side rail*, *n*—the structure connecting the end structures.

3.1.15 *static load*, *adj*—a vertically downward force applied by a calibrated force gage or by dead weights.

3.1.16 *structural failure*, *n*—damage to a component(s) or assembly resulting in partial separation (greater than 0.040 in. (1.00 mm) over original configuration) or complete separation of the component(s) or assembly.

4. Calibration and Standardization

4.1 All testing shall be conducted on a concrete floor that may be covered with a $\frac{1}{8}$ -in. (3-mm) thick vinyl flooring cover, unless test instructs differently.

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

4.3 No testing shall be conducted within 48 h of manufacturing.

4.4 The product to be tested shall be in a room with ambient temperature of 73 \pm 9°F (23 \pm 5°C) for at least 1 h prior to testing. Testing shall then be conducted within this temperature range.

4.5 All testing required by this consumer safety specification is to be conducted on the same unit.

5. General Requirements

5.1 The bed shall conform to the regulations specified in Section 2 of this specification before and after testing.

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

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.

³ Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401.

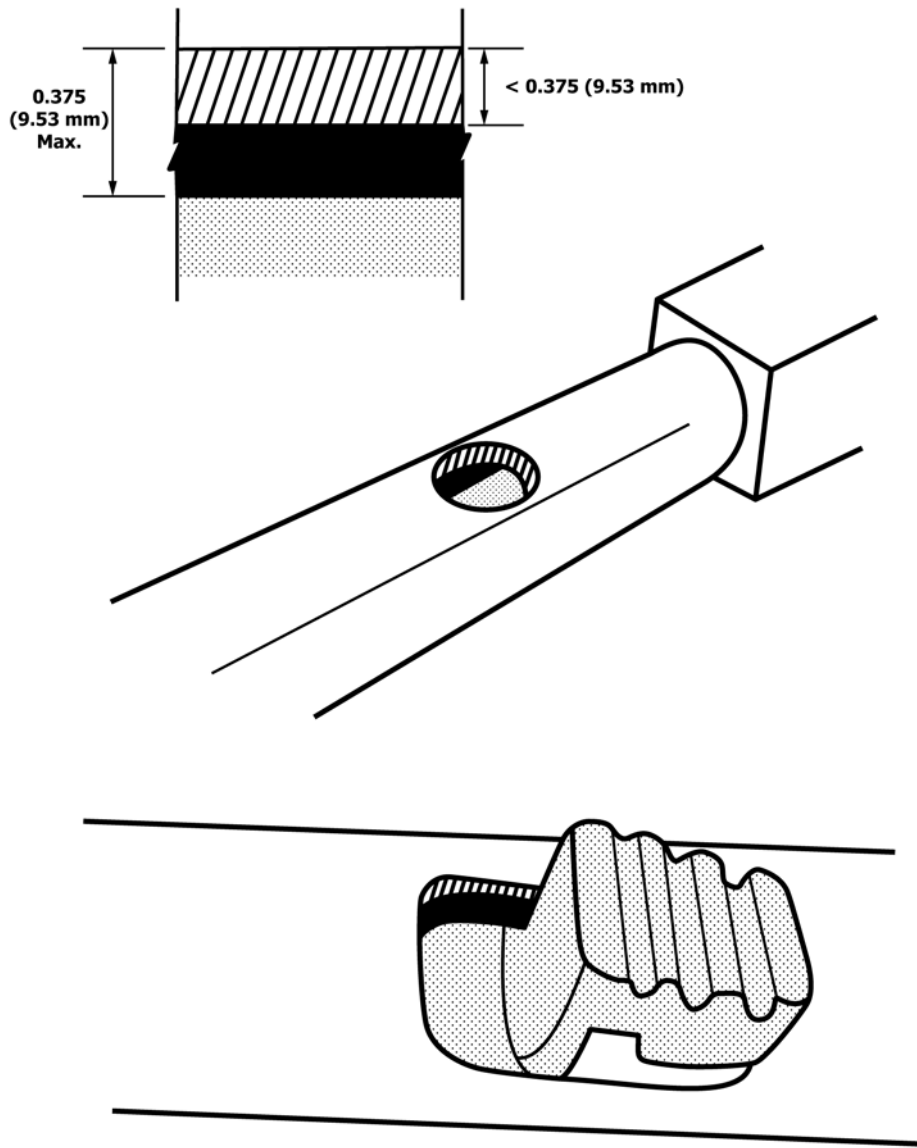


FIG. 1 Opening Example

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

5.4 The paint and surface-coating on the product shall comply to 16 CFR 1303.

5.5 Prior to testing, any exposed wood parts shall be smooth and free from splinters.

5.6 *Scissoring, Shearing, and Pinching*—A toddler bed, when in the manufacturer's recommended use position, shall be designed and constructed to prevent injury to the occupant from any scissoring, shearing, or pinching when members or components rotate about a common axis or fastening point, slide, pivot, fold or otherwise move relative to one another. Scissoring, shearing, or pinching that may cause injury shall not be permissible when the edges of any rigid parts admit a probe that is greater than 0.210-in. (5.33-mm) diameter and

less than 0.375-in. (9.53-mm) diameter at any accessible point throughout the range of motion of such parts.

5.7 *Protective Components*—If a child can grasp components between the thumb and forefinger, or teeth, such as caps, sleeves, or plugs used for protection from sharp edges, points, or entrapment of fingers or toes, or if there is at least a 0.040-in. (1.00-mm) gap between the component and its adjacent parent component, such a component shall not be removed when tested in accordance with 7.7.

5.8 Openings:

5.8.1 *Finger Entrapment*—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.