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.

Designation: F2085 – 19

Standard Consumer Safety Specification for Portable Bed Rails[1]

This standard is issued under the fixed designation F2085; 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.

INTRODUCTION

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

In response to incident data supplied by the CPSC, this consumer safety specification attempts to minimize the following type of potential hazard through labeling and performance requirements: entrapment between the portable bed rail and mattress in the bed rail structure and entanglement on protrusions. Entrapment of a child by the head or neck can result in asphyxiation.

This consumer safety specification is written within the current state-of-the-art of portable bed rail technology. It is intended that this specification will be updated whenever substantive information becomes available that necessitates additional requirements or justifies the revision of existing requirements.

This consumer safety specification is not intended to address all the hazards of bed rails that are either blatantly misused or used in a careless manner that disregards the instructional literature and warning statements provided with each bed rail.

1. Scope

1.1 This consumer safety specification establishes requirements for the performance of portable bed rails. It also contains requirements for labeling and instructional literature. This consumer safety specification does not cover guardrails that fall under the scope of Consumer Safety Specification F1821 or guardrails that are designed for a specific model of bed and which attaches at the headboard or footboard.

1.2 This consumer safety specification is intended to minimize hazards to children resulting from normal use and reasonably foreseeable misuse of portable bed rails.

1.3 For the purpose of this consumer safety specification, a portable bed rail is a device intended to be installed on an adult bed to prevent children from falling out of bed. These bed rails are intended for children who can get in and out of an adult bed unassisted (typically from 2 to 5 years of age).

1.4 No bed rail as defined in 3.1.1 that is 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 the requirements contained herein.

1.5 This consumer safety specification includes the following sections:

Title	Section
Scope	1
Referenced Documents	2
Terminology	3
Calibration and Standardization	4
General Requirements	5
Performance Requirements	6
Structural Integrity	6.1
Openings	6.2
Enclosed Openings	6.3
Openings Created by Bed Rail Displacement of Adjacent Style Portable Bed Rails	6.4
Openings Created by Displacement of Mattress-Top Portable Bed Rails	6.5
Openings Created by Displacement of Portable Bed Rails Intended for Use on Specific Manufacturers' Beds	6.6
Protrusions	6.7
Openings Between Bedposts (Headboard, Footboards, Etc.) and Ends of Portable Bed Rail	6.8
Bedrail components requiring consumer assembly	6.9
Test Equipment	7
Test Beds	7.1
Torso Probe	7.2
Wedge Probe	7.3
Ring Gauge	7.4
Weight Gauge	7.5
Force Gauge	7.6
Test Methods	8

[1] This consumer safety specification is under the jurisdiction of ASTM Committee F15 on Consumer Products and is the direct responsibility of Subcommittee F15.11 on Bed Rails.

Current edition approved Nov. 1, 2019. Published November 2019. Originally approved in 2001. Last previous edition approved in 2019 as F2085 – 12 (2019). DOI: 10.1520/F2085-19.

Copyright © ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959. United States

Documents
Document Sharing Hub
Full document details: ASTM F2085-19

Bolt is free floating, can retract but not completely removable

Pin is retractable but not removable without tools

FIG. 1 Captive Hardware

Test Method for Structural Integrity	8.1
Test Method for Enclosed Openings Within Portable Bed Rail	8.2
Test Method for Displacement of Adjacent Style Portable Bed Rails	8.3
Test Method for Displacement of "Mattress-Top" Style Portable Bed Rails	8.4
Test Method for Portable Bed Rails Intended for Use on a Specific Manufacturer's Bed	8.5
Test Method for Entanglement on Protrusions	8.6
Marking and Labeling	9
Permanency of Labels and Warnings	10
Instructional Literature	11
Keywords	12
Rationale	Appendix X1

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 precautionary caveat pertains only to the test methods portion in Section 8 of this 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 requirements 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 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

F1487 Consumer Safety Performance Specification for Playground Equipment for Public Use

F1821 Consumer Safety Specification for Toddler Beds

2.2 *Federal Standards:*[3]

16 CFR 1303 Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint

16 CFR Part 1500 Federal Hazardous Substances Act Regulations, including Sections:

16 CFR 1500.48 Technical Requirements for Determining a Sharp Point in Toys and Other Articles Intended for Use by 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 Use by Children Under 8 Years of Age

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 *adjacent type bed rail, n*—portable bed rail in which the guard portion (portion that a child would contact when rolling toward the mattress edge) of the unit is essentially a vertical plane that is pushed against the side of the mattress. The guard remains immediately next to the mattress and does not extend over the mattress surface.

3.1.2 *arm, n*—for the purpose of this specification, a device(s) attached to a bed rail that extends between the mattress and mattress foundation and is intended to secure the bed rail to the bed.

3.1.3 *bed manufacturer specific type portable bed rail, n*—portable bed rail that is intended for use on a certain type or model(s) of bed as specified by the manufacturer of the bed or bed rail, or both.

[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.

AVA Documents
Document Sharing Hub

Full document details: ASTM F2085-19

3.1.4 *captive hardware, n*—fasteners that remain attached to their respective components before normal assembly and after normal disassembly (see Fig. 1).

3.1.5 *conspicuous, adj*—label that is visible, when the portable bed rail is in the manufacturer's recommended use position, to a person standing near the unit at any one position around the unit but not necessarily visible from all positions.

3.1.6 *consumer adjustment, n*—those activities defined by the instructions to be taken by the consumer in order to properly fit and secure the bedrail to the mattress.

3.1.6.1 *Discussion*—Examples include sliding telescoping poles for proper fit, or initial adjustment for use, tightening of anchoring straps and positioning or changing of attachment components or locking pins.

3.1.7 *consumer assembly, v*—the fitting together of components of the bedrail according to manufacturer instructions.

3.1.8 *installation component, n*—component of the bedrail that is specifically designed to attach the bedrail to the bed and typically located under the mattress when in the manufacturer's recommended use position.

3.1.9 *mattress-top bed rail, n*—portable bed rail in which the guard portion (portion that a child would contact when rolling toward the mattress edge) extends over the sleeping surface of the mattress.

3.1.10 *misassembled bed rail, n*—a bed rail that has been assembled incorrectly but appears to function as a bedrail.

3.1.11 *nonpaper label, adj*—any label made of fabric or other material (such as plastic or metal) which either will not tear without the aid of tools, or tears leaving a sharply defined edge.

3.1.12 *non-rigid bed rail, n*—portable bed rail constructed of non-rigid materials, including but not limited to fabric or foam, or that requires air be inflated into the product to achieve structure.

3.1.13 *paper label, adj*—any label material (except fabric) which tears without the aid of tools and leaves a fibrous edge.

3.1.14 *permanent, adj*—marking or label shall be considered permanent if, during an attempt to manually remove it without the aid of tools or solvents, it cannot be removed, or it tears upon removal, or such action damages the surface to which it is attached.

3.1.15 *portable bed rail, n*—portable railing installed on the side of an adult bed and/or on the mattress surface which is intended to keep a child from falling out of bed.

3.1.15.1 *Discussion*—Portable bed rails include those made for a specific manufacturer's bed.

4. Calibration and Standardization

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

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

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

4.4 All testing required by this specification shall be conducted on the same unit.

5. General Requirements

5.1 There shall be no hazardous sharp points or edges as defined by 16 CFR 1500.48 and 16 CFR 1500.49.

5.2 There shall be no small parts as defined by 16 CFR 1501.

5.3 Any exposed wood parts shall be smooth and free from splinters.

5.4 The bed rail shall conform to 16 CFR 1303.

5.5 Non-rigid bed rails need only meet the general requirements of Section 5, the performance requirement of 6.3, and the warning requirements of 9.3.

5.6 Warning labels (whether paper or nonpaper) shall be permanent when tested per 10.1 – 10.3. Warning statements applied directly onto the surface of the product by hot stamping, heat transfer, printing, wood burning. etc. shall be permanent when tested per 10.4. Nonpaper labels shall not liberate small parts when tested in accordance with 10.5.

5.7 Installation components that are required to meet the performance requirements of 6.4, 6.5, and 6.6 shall be fully assembled, inseparable, and permanently attached to a component requiring consumer assembly (this excludes any consumer adjustment).

5.8 For products requiring consumer assembly, supplied hardware used for assembly of the bedrail such as screws, nuts or bolts shall be captive hardware to their respective components.

6. Performance Requirements

6.1 *Structural Integrity*—All tests of 8.1 shall be performed sequentially. After testing in accordance with 8.1, there shall be no hazardous condition created as defined in Section 5.

6.2 *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 in. (5.33 mm) and 0.375 in. (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 (see Fig. 2). The product shall be evaluated in all manufacturer's recommended use positions.

6.3 *Enclosed Openings*—When tested in accordance with 8.2, there shall be no enclosed openings in the enclosed structure of the portable bed rail that will permit passage of the Torso Probe shown in Fig. 3.

6.4 *Openings Created by Bed Rail Displacement of Adjacent Style Portable Bed Rails*—When tested in accordance with the procedure in 8.3, there shall be no opening between the mattress and the bed rail that will permit passage of the Torso

AVA Documents
Document Sharing Hub

Full document details: ASTM F2085-19

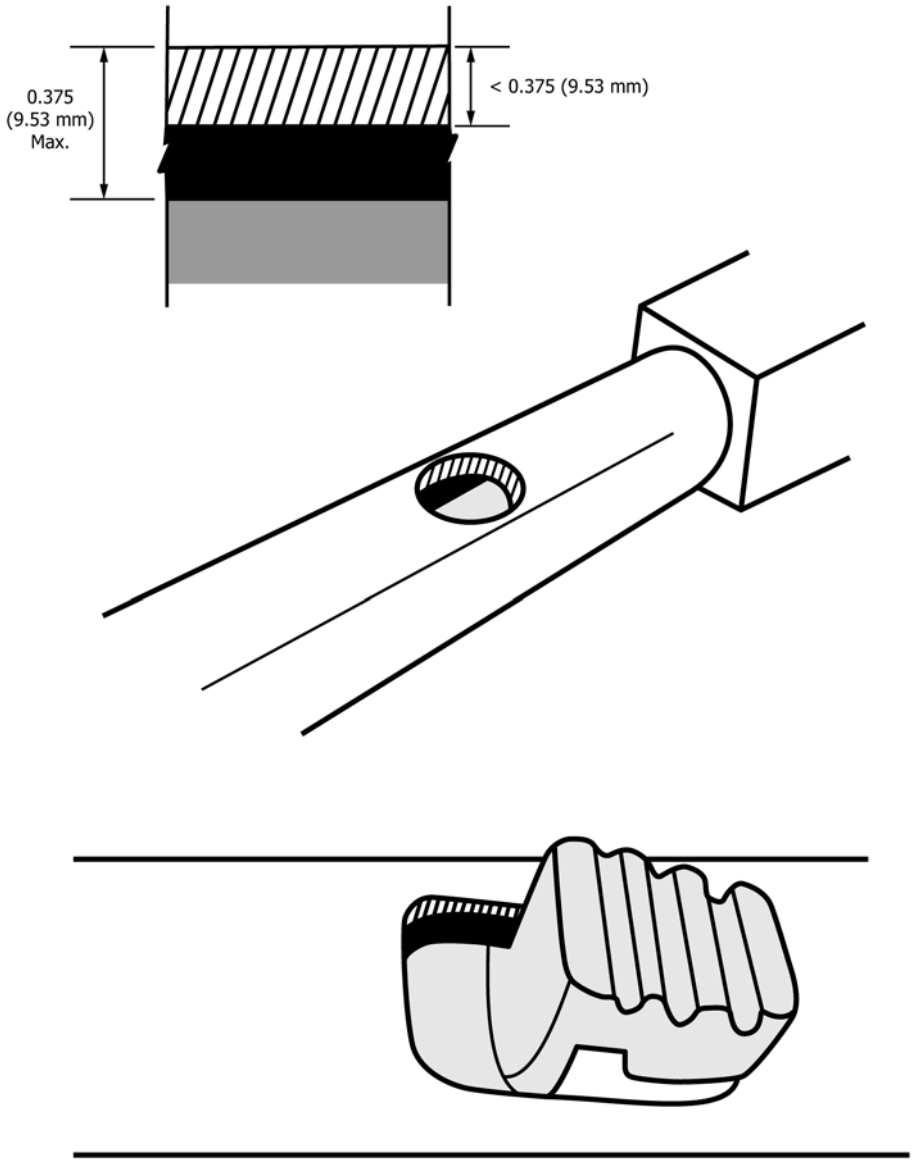

FIG. 2 Opening Example

Probe shown in Fig. 3. Passage is defined as the entire Torso Probe passing the horizontal plane that extends from the top surface of the mattress toward the guard portion of the bed rail.

6.4.1 Bed rails that are marketed as being usable on a bed that has a mattress support that is solid rather than a box spring shall be tested on Platform 3, as defined in 7.1.3, in accordance with 8.3.

6.5 *Openings Created by Displacement of Mattress-Top Portable Bed Rails*—When tested in accordance with the procedure in 8.4, the Wedge Probe (Fig. 4) shall not penetrate to a depth greater than 4.5 in. (114 mm) and the bed rail shall not displace horizontally such that the inner edge of the bed rail moves off the top mattress surface. The inner edge of the bed rail is the edge where the Wedge Probe is inserted.

6.5.1 Bed rails that are marketed as being usable on a bed that has a mattress support that is solid rather than a box spring shall be tested on Platform 3, as defined in 7.1.3, in accordance with 8.3.

6.6 *Openings Created by Displacement of Portable Bed Rails Intended for Use on Specific Manufacturers' Beds*—When tested in accordance with the procedure in 8.5, there shall be no opening between the mattress and bed rail that will permit passage of the Torso Probe (Fig. 3). Passage is defined as the entire Torso Probe passing the horizontal plane toward the guard position of the bed rail.

6.7 *Protrusions*—Neither string on the weight gauge shall stay attached to a protrusion when tested in accordance with the procedure in 8.6.

AVA Documents
Document Sharing Hub

Full document details: ASTM F2085-19