



Designation: F3118 – 16a

Standard Consumer Safety Specification for Infant Inclined Sleep Products¹

This standard is issued under the fixed designation F3118; 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 incidents associated with infant inclined sleep products identified by the U.S. Consumer Product Safety Commission (CPSC).

In response to incident data compiled by the CPSC, this consumer safety specification attempts to minimize the following: (1) fall hazards, (2) positional asphyxiation, and (3) obstruction of nose and mouth by bedding. This consumer safety specification is intended to cover normal use and reasonably foreseeable misuse or abuse of inclined sleep products. This specification does not cover inclined sleep products that are blatantly misused or used in a careless manner that disregards the safety instructions and warnings provided with each inclined sleep product.

This consumer safety specification is written within the current state-of-the-art of infant sleep product technology and will be updated whenever substantive information becomes available that necessitates additional requirements or justifies the revision of existing requirements.

1. Scope

1.1 This consumer safety specification establishes safety performance requirements, test methods, and labeling requirements to minimize the hazards to infants presented by infant inclined sleep products as identified in the introduction.

1.2 This consumer safety specification is intended to minimize the risk of injuries to infants resulting from normal use and reasonably foreseeable misuse or abuse of infant inclined sleep products.

1.3 This consumer safety performance specification covers a free standing product with an inclined sleep surface primarily intended and marketed to provide sleeping accommodations for an infant up to 5 months old or when the infant begins to roll over or pull up on sides, whichever comes first. It also covers a smaller product intended for newborns up to 3 months old or when newborn begins to wiggle out of position or turn over in the product or weighs more than 15 lb (6.8 kg), whichever comes first. It also covers infant and newborn inclined sleep product accessories, which are attached to, or supported by, another product with the same age or abilities, or both, as the free standing products. If the inclined sleep product can be converted into a product for which another ASTM standard consumer safety specification exists, the product shall

meet the applicable requirements of that standard. For example, an inclined sleep product that can have the recline angle adjusted below 10° shall also comply with the applicable requirements of Consumer Safety Specification F2194.

1.4 No infant inclined sleep product 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.

1.5 *The following precautionary caveat pertains only to the test method 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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D3359 Test Methods for Measuring Adhesion by Tape Test
F963 Consumer Safety Specification for Toy Safety
F2194 Consumer Safety Specification for Bassinets and Cradles

¹ This 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 Changing Tables.

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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.

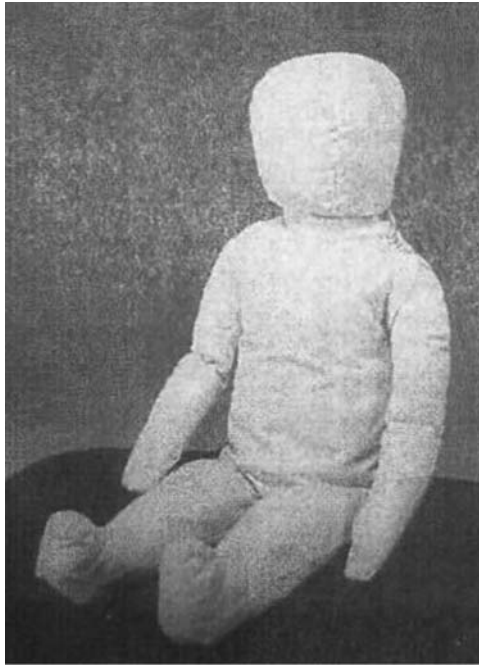


FIG. 1 CAMI Infant Dummy, Mark II (17.5 lb, 8.0 kg)



FIG. 2 CAMI Newborn Dummy (7.5 lb., 3.4 kg)

2.2 *Federal Standards:*³

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

16 CFR Part 1500 Hazardous Substances Act Regulations including sections:

1500.48 Technical Requirements for Determining a Sharp Point in Toys or Other Articles Intended for Use by Children Under Eight Years of Age

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

1500.50 Test Method for Simulating Use and Abuse of Toys and Other Articles Intended for Use by Children 18 Months of Age or Less

³ Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, <http://www.access.gpo.gov>.

16 CFR Part 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

2.3 Other References:

CAMI Infant Dummy Mark II (see Fig. 1)

CAMI Newborn Dummy (see Fig. 2)

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *accessory inclined sleep product, n*—a rigid framed inclined sleep product that is intended to provide sleeping accommodations for infants or newborns and attaches to or is supported by another product.

3.1.2 *compact inclined sleep product, n*—a free standing infant or newborn inclined sleep product having a distance of 6.0 in. (152 mm) or less between the underside of the lowest point on the seat bottom and the support surface (floor).

3.1.3 *conspicuous, adj*—visible, when the unit is in a manufacturer’s recommended use position, to a person standing near the unit at any one position around the infant inclined sleep products but not necessarily visible from all positions.

3.1.4 *dynamic load, n*—application of impulsive force through free fall of a weight.

3.1.5 *fabric, n*—any woven, knit, coated, laminated, extruded or calendared flexible material that is intended to be sewn, welded, heat sealed or glued together as an assembly.

3.1.6 *head containment area, n*—the upper part of the occupant area which provides a physical border to contain the infants head.

3.1.7 *infant inclined sleep product, n*—a freestanding product, intended to provide a sleeping accommodations for an infant up to approximately 5 months of age, that is generally supported by a stationary or rocker base with one or more inclined sleep surface positions for the seat back that are greater than 10° and do not exceed 30° from the horizontal.

3.1.7.1 *Discussion*—Products with all seat back inclined sleep surface positions less than or equal to 10° from the horizontal, while in the rest (non-rocking) position, are not covered by this specification.

3.1.8 *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.

3.1.8.1 *Discussion*—This specifically excludes positions that the manufacturer shows in a like manner in its literature to be unacceptable, unsafe, or not recommended.

3.1.9 *mesh, n*—woven fabric in which the warp or filling yarns are interlaced, knitted fabric in which the wales and courses yarns are interlocked, or any other type of fabric that may be developed that provides openings therein.

3.1.10 *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.

3.1.11 *occupant, n*—that individual who is in a product that is set up in one of the manufacturer’s recommended use positions.

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

3.1.13 *seat bight line, n*—the intersection of the seat back surface with the seat bottom surface (see Fig. 3).

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

3.1.15 *structural component, n*—any load bearing member or part of the product that supports the weight or portion of the weight of the occupant.

4. Calibration and Standardization

4.1 All testing shall be conducted on a concrete floor that may be covered with 1/8 in. (3 mm) thick vinyl floor covering, 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 an ambient temperature of 73° ± 9°F (23 ± 5°C) for at least 1 h prior to testing. Testing then shall be conducted within this temperature range.

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

5. General Requirements

5.1 *Lead in Paints*—The paint and surface coating shall conform with 16 CFR 1303.

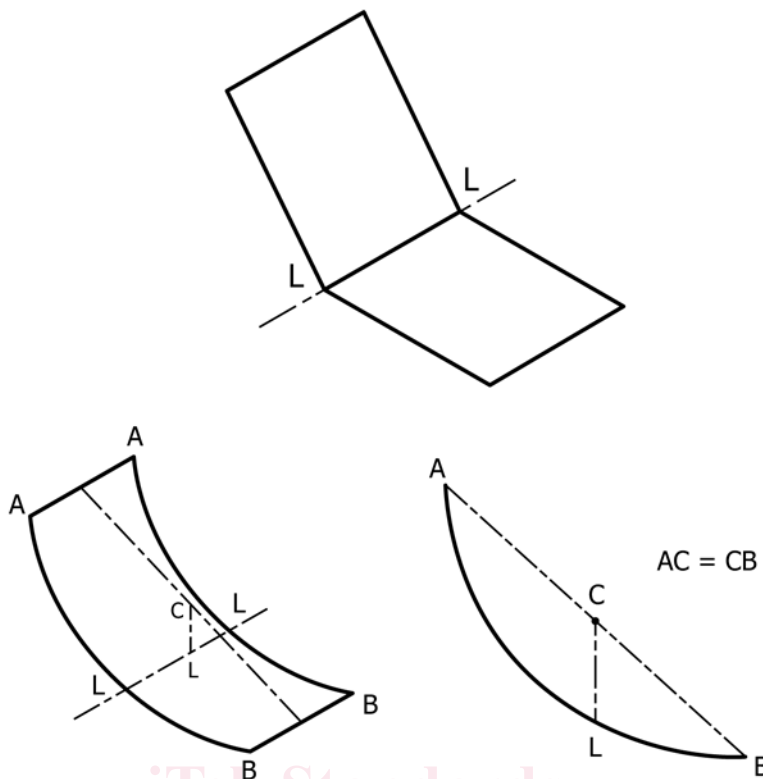
5.2 *Hazardous Sharp Edges or Points*—There shall be no hazardous sharp points or edges as defined by 16 CFR 1500.48 and 16 CFR 1500.49 before and after testing to the consumer safety specification.

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

5.4 *Wood Parts*—Prior to testing, any exposed wood parts shall be smooth and free from splinters.

5.5 *Scissoring, Shearing, Pinching*—A product, when in the manufacturer’s recommended use position, shall be designed and constructed so as 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 could exist when the edges of any rigid parts admit a probe greater than 0.210 in. (5.33 mm) and less than 0.375 in. (9.53 mm) diameter at any accessible point throughout the range of motion of such parts.

5.6 *Openings*—Holes or slots that extend entirely through a wall section of any rigid material less than 0.375-in. (9.53-mm)



LL = Seat Bight Line
 CL = Vertical Projection of C on the Seat

NOTE 1—When the seat does not have a defined intersection of the seat bottom and seat back, then a theoretical bight line, “LL,” is determined as shown. The bight line will vary with products that have adjustable backrests.

FIG. 3 Seat Bight Location—Intersection of Seat Bottom and Seat Back

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. 4). The product shall be evaluated in all manufacturer’s recommended use positions.

5.7 *Exposed Coil Springs*—Any exposed coil spring which is accessible to the occupant, having or capable of generating a space between coils of 0.210 in. (5.33 mm) or greater during static load testing (see 7.2.2) shall be covered or otherwise designed to prevent injury from entrapment.

5.8 *Protective Components*—If an infant 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 component shall not be removed when tested in accordance with 7.1.

5.9 *Labeling:*

5.9.1 Warning labels, (whether paper or non paper) shall be permanent when tested per 7.5.

5.9.2 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 7.6.

5.9.3 Non-paper labels shall not liberate small parts when tested in accordance with 7.7.

5.10 *Toys*—Toy accessories attached to, removable from, or sold with product, as well as their means of attachment, must meet applicable requirements of Consumer Safety Specification F963.

5.10.1 Toy mobiles that attach solely to an infant inclined sleep product are not required to contain labeling as stated in Consumer Safety Specification F963, subsections 5.6.2 Safety Labeling Mobiles and 6.3 Instructional Literature Mobiles.

6. Performance Requirements

6.1 *Stability:*

6.1.1 *Stability Compact Inclined Sleep Product*—The compact inclined sleep product shall not tip over when tested according to 7.3.2. The infant and newborn inclined sleep products and accessories are exempt from this requirement.

6.1.2 *Stability Infant or Newborn Inclined Sleep Product*—The infant or newborn inclined sleep product shall not tip over when tested according to 7.3.3. Inclined sleep product accessories are exempt from this requirement when attached to, or supported by, another product per the manufacturer’s instructions. Compact inclined sleep products are also exempt from this requirement.

6.2 *Unintentional Folding:*

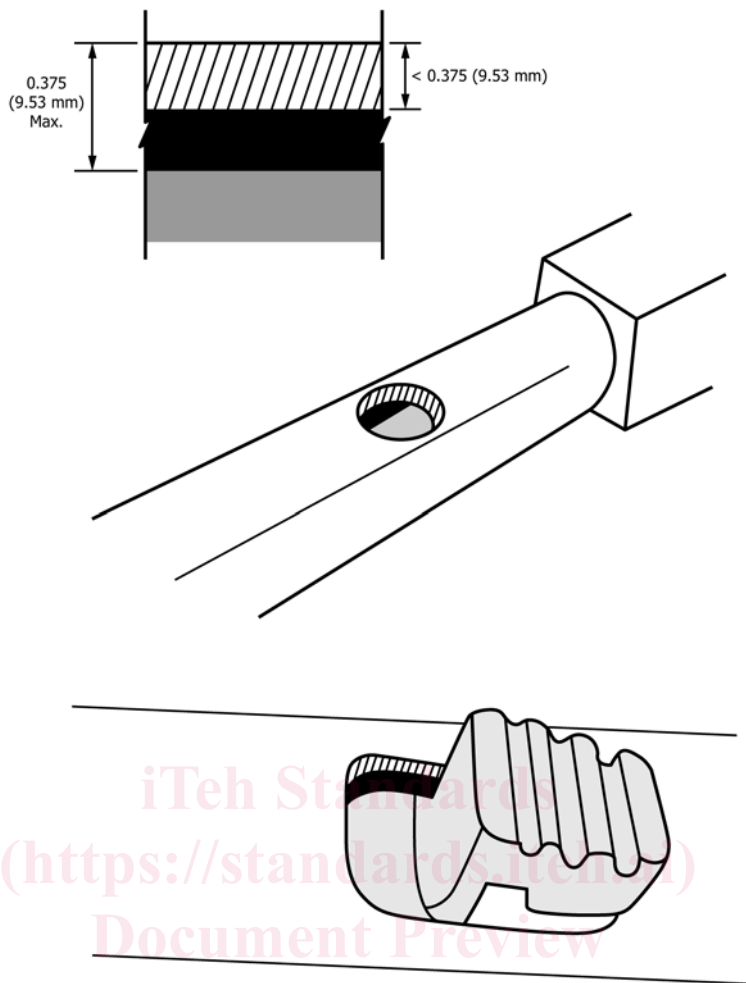


FIG. 4 Opening Examples

6.2.1 Products that fold shall meet either 6.2.1.1, 6.2.1.2, 6.2.1.3 or 6.2.1.4.

6.2.1.1 Products designed without latching or locking devices must remain in the manufacturer's recommended use positions during and upon completion of the test, in accordance with 7.4.2.

6.2.1.2 Products designed with a single action release mechanism latching or locking devices must remain in the manufacturer's recommended use position during and upon completion of the test, in accordance with 7.4.3.

6.2.1.3 Products with a double action release mechanism latching or locking device shall require two distinct and separate actions for release of the mechanism.

6.2.1.4 Products designed with two consecutive actions to fold the unit shall require the first action be maintained without the unit folding while the second independent action is carried out simultaneously to initiate folding of the unit. Unit shall not fold when tested in accordance with 7.4.4.

6.3 Restraints:

NOTE 1—A restraint system is not mandatory.

6.3.1 A restraint system may be provided to secure a child in any of the manufacturer's recommended use positions in the infant inclined sleep product.

6.3.2 The anchor points and fastening device of a restraint system shall not break or separate when testing in accordance with 7.14.1.

6.3.3 A restraint system shall include both a waist and crotch restraint designed such that the crotch restraint's use is mandatory when a restraint system is in use. A restraint system shall not include shoulder straps.

6.3.4 The adjustment position of a restraint system and its closing means shall not slip more than 1 in. (25 mm), break, separate, or permit the removal of the test dummy when tested per 7.14.2.

6.3.5 The connecting means and adjustment means of the waist restraint shall be capable of usage independent of one another. The connecting means shall not be an adjustment means but may have one integrally attached to it.

6.3.6 Before shipment, the restraint system must be attached to the product in one of the manufacturer's recommended use positions and shall be attached in such a manner as to not become detached through normal use.

6.4 Side Height:

6.4.1 Infant inclined sleep product and infant inclined sleep product accessory shall provide a minimum side height of 3.0 in. (76 mm) when tested in accordance to 7.12.2.

6.4.2 Newborn inclined sleep product and newborn inclined sleep product accessory shall provide a minimum side height of 2.0 in. (51 mm) when tested in accordance to 7.12.3.

6.5 *Head, Foot and Side Containment*—When tested in accordance with 7.13 the product shall prevent the test sphere (see Fig. 5) from falling from the product.

6.6 *Openings for Mesh/Fabric Sided Products*—Openings in mesh shall be designed to prevent entrapment of fingers, toes, and snaring of buttons normally used on infant clothing. A mesh opening shall not fully accept the specified rod when tested in accordance with 7.8.

6.7 *Side to Side Surface Containment*—The pivot angle between the hinged weight gage–newborn (see Fig. 6) and center line of the infant inclined sleep product shall not be greater than 30° when tested in accordance with 7.9.

6.8 *Minimum Incline:*

6.8.1 *Infant Inclined Sleep Product and Infant Inclined Sleep Product Accessory*—The angle of the seat back surface along the occupants head to toe axis relative to the horizontal shall be greater than 10° when tested in accordance to 7.10.2.

6.8.2 *Newborn Inclined Sleep Product and Newborn Inclined Sleep Product Accessory*—The angle of the seat back surface along the occupants head to toe axis relative to the horizontal shall be greater than 10° when tested in accordance to 7.10.3.

6.9 *Maximum Incline:*

6.9.1 *Infant Inclined Sleep Product and Infant Inclined Sleep Product Accessory*—The angle of the seat back surface along the occupants head to toe axis relative to the horizontal shall not exceed 30° when tested in accordance with 7.11.2.

6.9.2 *Newborn Inclined Sleep Product and Newborn Inclined Sleep Product Accessories*—The angle of the seat back surface along the occupants head to toe axis relative to the horizontal shall not exceed 30° when tested in accordance with 7.11.3.

6.10 *Usable Seat Back Length for Newborn Inclined Sleep Product Accessories and Newborn Inclined Sleep Products*—The usable seat back length shall not exceed 17 in. (432 mm) when measured in accordance to 7.15.

6.11 *Structural Integrity*—All tests that cover static and dynamic loading are to be performed sequentially on the same product and in the sequence listed in the standard.

6.11.1 *Dynamic Load*—The inclined sleep product shall support a dynamic load and there shall be no failure of seams, breakage of materials, or changes of adjustments that could cause the product to not fully support the child or create a hazardous condition as defined in Section 5 after testing in accordance with 7.2.1.

6.11.2 *Static Load*—The inclined sleep product shall support a static load and there shall be no failure of seams, breakage of materials, or changes of adjustments that could cause the product to not fully support the child or create a hazardous condition as defined in Section 5 after testing in accordance with 7.2.2.

7. Test Methods

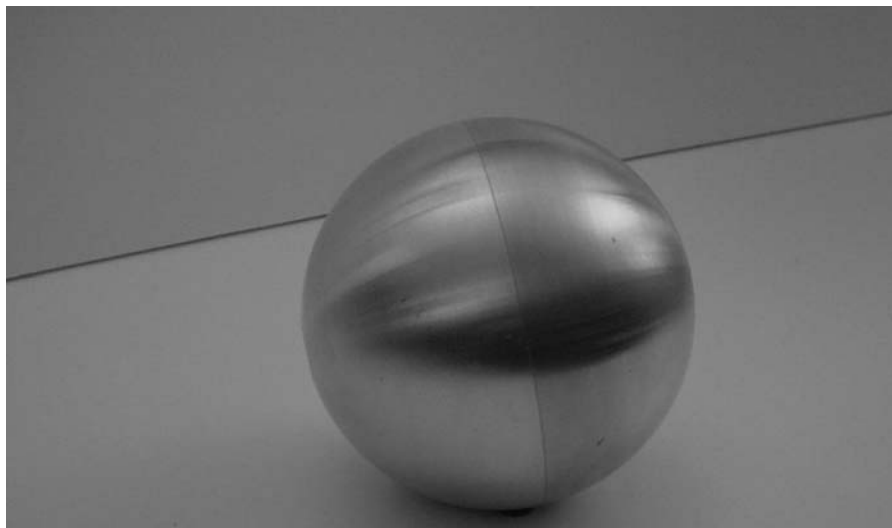
7.1 *Removal of Protective Components Test:*

7.1.1 Any protective component shall be tested in accordance with each of the following methods in the sequence listed.

7.1.2 Secure the product so that the product cannot move during the performance of the following tests:

7.1.3 *Torque Test*—A torque shall be applied to any graspable component within a period of 5 s in a clockwise direction until either the component rotates 180° from the original position or the torque attains 2 in.-lb (0.2 Nm). The torque or maximum rotation shall be maintained for an additional 10 s. The torque shall then be removed and the test components permitted to return to a relaxed condition. This procedure shall then be repeated in the counter-clockwise direction.

7.1.4 *Tension Test:*



NOTE 1—Sphere shall be fabricated from a smooth, rigid material weighted to 5 lb (2.3 kg).

NOTE 2—Sphere is machined to a 14.75 in. (374.6 mm) circumference.

FIG. 5 Smooth Rigid Sphere