~~Designation:F 406–99~~ Designation: F 406 – 02

Standard Consumer Safety Specification for ~~Play Yards~~Non-Full-Size Baby Cribs/Play Yards[1]

This standard is issued under the fixed designation F 406; 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 the play yard incidents that were identified by the U.S. Consumer Product Safety Commission (CPSC).~~

~~In response to play yard-related incidents reported to the National Electronic Injury Surveillance System (NEISS), this consumer safety specification attempts to minimize falls from play yards by requirements for height of sides, rails strength, and warnings; scissoring, shearing, and pinching injuries; strangulation by button entrapment in mesh openings; entrapment of body parts in holes or between slats; collapse of the floor or sides; choking on vinyl bitten from the top rail; failure of locking devices; and, suffocation in loose mesh or drop side models left with a side down in the down position.~~

~~This consumer safety specification is not intended to cover play yards that are either blatantly misused or used in a careless manner that disregards the safety instructions in the warning statement provided with each play yard.~~

~~This consumer safety specification is written within the current state-of-the-art of play yard technology. The intent is to update this consumer safety specification when ever substantive information becomes available which necessitates additional requirements or justifies revising the existing requirements.~~

This consumer safety specification addresses incidents associated with non-full-size cribs/play yards that were identified by the U.S. Consumer Product Safety Commission (CPSC).

Incidents identified by the CPSC and addressed in this standard include asphyxiation due to entrapment in drop side units left with a side down, strangulation by entanglement on protruding hardware, strangulation by button entrapment in mesh openings, strangulation due to failure of the center hinge on a top rail, collapse or failure of the locking devices, collapse of the floor or sides, and choking on vinyl bitten from the top rail. This standard also addresses wooden non-full-size crib injuries or deaths due to dislodgment of slats resulting from breakage or failure of glue joints, collapse of mattress support, detachment of screws, dislodgment of teething rails, and entanglement on cords or strings.

This standard is not intended to cover non-full-size cribs/play yards that are either blatantly misused or abused. This standard is written within current state-of-the-art of non-full-size crib/play yard technology and is intended to be updated if substantive information becomes available that necessitates additional requirements or justifies revision of existing requirements.

1. Scope

~~1.1This consumer safety specification establishes performance requirements, test methods, and marking requirements intended to enhance the safe construction and use of the play yards with the child inside or outside of the unit.~~

~~1.2This consumer safety specification is to minimize injuries to children resulting from use and reasonably foreseeable misuse or abuse of play yards.~~

~~1.3This consumer safety specification is not intended to address incidents and injuries resulting from the interaction of older children with children in the play yard or accidents resulting from the abuse or misuse by persons who exceed the physical criteria in 1.4.~~

~~1.4For the purpose of this consumer safety specification, a play yard is a framed enclosure with a floor made for the purpose~~

[1] This consumer safety specification is under the jurisdiction of ASTM Committee ~~F-15~~F15 on Consumer Products and is the direct responsibility of Subcommittee F15.18 ~~on Cribs, Toddler Beds, and Play Yards.~~

~~Current edition approved March 10, 1999. Published June 1999. Originally published as F 406–77. Last previous edition F 406–97.~~on Units, Toddler Beds, and Play Yards.
Current edition approved April 10, 2002. Published June 2002.

~~of containing a child who is unable to climb out of the play yard and having a height of 35 in. (890 mm) or less, or weighing not more than 30 lb (14 kg).~~

~~1.5No play yard produced after the approval date of this consumer safety specification shall, either by label or other means, indicate compliance with this consumer safety specification unless it conforms to all requirements contained herein.~~

~~1.6The values stated in inch-pound units are to be regarded as the standard. The values in parentheses are provided for information only.~~

~~1.7The following precautionary caveat pertains only to the test methods portion, Section 10~~

1.1 This consumer safety specification establishes testing requirements for structural integrity and performance requirements for non-full-size cribs/play yards, both rigid sided and mesh/fabric assemblies. It also provides requirements for labeling and instructional material. The term unit or product will refer to a non-full-size crib/play yard.

1.2 This specification covers products intended to provide sleeping and playing accommodations for a child (excluding bassinets, cradles, and baskets) that have an interior length dimension smaller than 49¾ in. (1263 mm) or an interior width dimension smaller than 25⅜ in. (643 mm), or both. Such products are intended for a child who is less than 35 in. (890 mm) in height.

1.3 No 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 applicable requirements contained herein, before and after all testing.

1.4 The values stated in inch-pound units are to be regarded as the standard. The SI units given in parentheses are for information only.

1.5 The following safety hazards caveat pertains only to the test method portion, 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, and health practices, and determine the applicability of regulatory limitations prior to use.*~~ 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.

NOTE 1—This consumer safety specification includes the following sections:

Labeling	9.1
Warning Statements	9.2
Instructional Literature	10
Warning Statements	10.1.2
Water Mattress Use	10.3.4

2. Referenced Documents

2.1 *ASTM Standards:*

D 1424 ~~Test Method for Tearing Strength of Fabrics by Falling-Pendulum Type (Elmendorf) Apparatus~~Test Method for Tear Resistance of Woven Fabrics By Falling Pendulum (Elmendorf) Apparatus[2]

D 1683 Test Method for Failure in Sewn Seams of Woven Fabrics[2] ~~D3359~~

D 3359 Test Methods for Measuring Adhesion by Tape Test[3]

D 5034 Test Methods for Breaking ~~Strength~~Load and Elongation of Textile Fabrics (Grab Test)[4]

F 966 Consumer Safety Specification for Full-Size and Non-Full-Size Baby Crib Corner Post Extensions

~~2.2 *Federal Regulations:*~~

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

~~16CFR 1500 Hazardous Substance Act Regulations Including Sections:~~

~~16CFR 1500.44 Method for Determining Extremely Flammable and Flammable Solids~~

~~16CFR 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~~

~~16CFR 1500.50–.52 Test Methods for Simulating Use and Abuse of Toys and Other Articles Intended for Use by Children~~ [5]

F 1169 Consumer Safety Specification for Full-Size Baby Cribs[6]

F 1487 Consumer Safety Performance Specification for Playground Equipment for Public Use[5]

2.2 *Federal Regulations:*

16 CFR 1303 Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint[7]

16 CFR 1500 Hazardous Substances Act Regulations including sections:

1500.44 Method for Determining Extremely Flammable and Flammable Solids[7]

1500.48 Technical Requirements for Determining a Sharp Point In Toys and Other Articles Intended for Use By Children Under Eight Years of Age[7]

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[7]

1500.50-.52 Test Methods for Simulating Use and Abuse of Toys and Other Articles Intended for Use By Children[7]

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[7]

~~16CFR 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~~

~~16CFR 1509 Requirements for Non-Full-Size Baby Cribs~~ 16 CFR 1509 Requirements for Non-Full-Size Baby Cribs[7]

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *conspicuous*, *adj*—Describes a label that is visible, when the ~~play yard~~ unit is in a manufacturer's recommended use position, to a person standing near ~~or~~ the unit at any one position around the ~~play yard,~~unit but not necessarily visible from all positions.

3.1.2 *cord*, *n*—a length of slender flexible material including monofilaments, rope, woven and twisted cord, plastic and textile tapes, ribbon, and those materials commonly called string.

3.1.3 ~~*dynamic load*~~dropside/dropgate, *n*—~~application of impulsive force through free fall of a weight.~~ —a side that is intended to slide or pivot with respect to the frame when the product is in the manufacturer's recommended use position to provide easier access to the occupant.

3.1.4 ~~*fabric*~~dynamic load, *n*—~~any woven, knit, coated, laminated, extruded or calendered flexible material that is intended to be sewn, welded, heat sealed, or glued together as an assembly.~~ —application of an impulsive force through free fall of a weight.

[2] Discontinued—See *1998 Annual Book of ASTM Standards* , Vol 07.01.

[3] *Annual Book of ASTM Standards*, Vol 06.01.

[4] *Annual Book of ASTM Standards*, Vol 07.02.

[5] *Annual Book of ASTM Standards*, Vol 15.07.

[6] ~~*Code of Federal Regulations*, available from U.S. Government Printing Office, Washington, DC 20402.~~Annual Book of ASTM Standards, Vol 14.02.

[7] Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

3.1.5 ~~*manufacturer's recommended use position*~~fabric, *n*—~~any position for use of the product that is presented as a normal, allowable, or acceptable configuration by the manufacturer in any descriptive or instructional literature. This literature specifically excludes positions that the manufacturer shows in a like manner to be unacceptable, unsafe, or not recommended.~~ —any woven, knit, coated, laminated, extruded or calendered flexible material that is intended to be sewn, welded, heat sealed, or glued together as an assembly.

3.1.6 ~~*mesh*~~foldable side or end, *n*—~~mesh may be either a woven fabric, in which the warp and filling yarns are interlaced, or 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.~~ —a side or end panel intended to be stationary with respect to the frame when a product is in the manufacturer's recommended use position, but that folds to allow for carrying or storage of the product.

3.1.7 ~~*mesh-fabric play yard*~~manufacturer's recommended use position, *n*—~~a play yard constructed with a rigid frame assembly and a fabric or mesh assembly, or both, used to function as sides, ends, or floor, or a combination thereof.~~ —Any position that is presented by the manufacturer in any descriptive or instructional literature as a normal, allowable, or acceptable configuration for use of the product . This specifically excludes positions that the manufacturer shows in a like manner in its literature to be unacceptable, unsafe, or not recommended.

3.1.8 ~~*non-paper label*~~mattress, *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 or labels made from fabric.~~ —a pad with a fabric, vinyl, or other material case filled with resilient material (such as cotton, foam, fiberfill, etc.) used as or on the floor of the unit.

3.1.9 ~~*occupant*~~mesh, *n*—~~that individual who is in a product that is set up in one of the manufacturer's recommended use positions.~~ —mesh may be either a woven fabric in which the warp and filling yarns are interlaced, a 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 ~~*paper label*~~mesh/fabric unit, *n*—~~any label material except fabric which tears without the aid of tools and leaves a fibrous edge.~~ —a unit constructed with a rigid frame assembly and a fabric and/or mesh assembly used to function as sides, ends, and/or floor.

3.1.11 ~~*permanent, adj—(labels/warning attachments):*~~

~~3.1.11.1*Labels not attached by a seam.*~~

~~3.1.11.2A non-paper label or decal shall be considered permanent if during an attempt to remove it manually without the aid of tools or solvents, it cannot be removed or such action damages the surface to that it is attached.~~

~~3.1.11.3A paper label shall be considered permanent if during an attempt to remove it manually without the aid of tools or solvents, it cannot be removed, it tears upon removal or such action damages the surface to that it is attached.~~

~~3.1.11.4*Labels attached by a seam.*~~

~~3.1.11.5A label attached by a seam shall be considered permanent if it complies with the requirements of 7.8.2 and does not tear, yielding a separate part, during the test, and meets the assembly requirements of 7.8.1.~~ nonpaper 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 or labels made from fabric.

3.1.12 ~~*rigid-sided play yard*~~occupant, *n*—~~a play yard with sides/ends constructed of rigid materials like wood, plastic, or metal generally configured as a horizontal rail/vertical slat assembly.~~ —that individual who is in a product that is set up in one of the manufacturer's recommended use positions.

3.1.13 ~~*seam*~~paper label, *n*—~~a means of joining fabric components, such as sewing, welding, heat sealing, or gluing.~~ —any label material that tears without the aid of tools and leaves a fibrous edge.

3.1.14 ~~*static load*~~protrusion, *n*—~~a vertically downward load applied by a dead weight or other means.~~ —a projection on the unit over which an item worn by a child may become hooked.

3.1.15 ~~*structural failure*~~rigid sided product, *n*—~~damage to 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.~~ —a product with sides/ends constructed of rigid materials like wood, plastic, or metal generally configured as a horizontal rail/vertical slat assembly.

3.1.16 ~~*warning statements*~~

~~3.1.16.1*Discussion*—If warning statements are on a label, refer to 3.1.11.1 or 3.1.11.4.~~

~~3.1.16.2Warning statements applied directly onto the surface of the play yard by hot stamping, heat transfer, printing, wood burning, etc., will be considered permanent if the letters in the area tested are still legible and attached after being subjected to the test prescribed in 10.12.~~ seam, *n*—a means of joining fabric components such as sewing, welding, heat sealing, or gluing.

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

3.1.18 *stationary side*, *n*—a side or end panel that is not intended to fold, slide, or move with respect to the frame when the product is in the manufacturer's recommended use position.

3.1.19 *structural failure*, *n*—damage to a component(s) or assembly resulting in partial separation (greater than 0.04 in. (1 mm) over original configuration), or complete separation of the component(s) or assembly.

4. ~~General Testing Requirements~~ Calibration and Standardization

4.1 All testing shall be conducted on a concrete floor that may be covered with ⅛-in. (3-mm) thick vinyl flooring cover, unless test instructs differently.

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

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

5. General Requirements

~~5.1The play yard shall comply with all requirements of this consumer safety specification before and after testing as specified in Section 10 of this consumer safety specification.~~

~~5.2*Regulations and Standards*—Play yards shall conform to regulations and documents referenced in Section 2 before and after all testing.~~

~~5.3*Wood Parts*—Prior to testing, any exposed wood parts shall be smooth and free of splinters.~~

~~5.4~~

5.1 All product corner post extensions must comply with Consumer Safety Specification F 966.F 966

5.2 Prior to testing, any exposed wood parts shall be smooth and free of splinters.

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

5.4 There shall be no small parts, as defined by 16 CFR 1501, before testing or liberated as a result of testing in accordance with this specification.

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

5.6 *Scissoring, Shearing, or Pinching* :

~~5.4.1A play yard~~ 5.6.1 A product, 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,~~axis or fastening ~~points.~~point, slide, pivot, fold, or otherwise move relative to one another. Scissoring, shearing, or pinching ~~exists~~ that may cause injury shall not be permissible when the edges of the rigid parts admit a probe that is greater than ~~a 0.210-in. (5.30-mm)~~ 0.210 in. (5.30 mm) and less than ~~a 0.375-in. (9.50-mm)~~ 0.375 in. (9.50 mm) diameter at any accessible point throughout the range of motion of such parts.

~~5.4.2Play yards~~ 5.6.2 Products that allow the top rail to be in a lowered position when the ~~play yard~~ unit is erected, ~~whether or not this is a recommended use position~~ as shown in Fig. 1~~, shall be evaluated and shall be tested in accordance with 10.10~~, shall be evaluated for the potential for scissoring, shearing or pinching. Those components of the top rail, its hinges, locks, or mechanism that are deemed to be capable of scissoring, shearing or pinching shall be tested in accordance with 5.6.2.1-5.6.2.4.

~~5.5~~

5.6.2.1 At all intersections of the "drop top rail" with the "top rail saddle" (Point A, Fig. 1), the insertion of a probe greater than 0.210 in. (5.30 mm) in diameter and less than 0.375 in. (9.50 mm) in diameter to a depth of more than 0.210 in. (5.30 mm) shall not be permitted in any position throughout the range of motion of the top rail.

5.6.2.2 All intersections of the "hinge legs" and "saddle" with the "drop top rail" and the "inclined leg" (Point B, Fig. 1) where no padding of ¼ in. (6.30 mm) or less exists, shall allow a 0.375-in. (9.50-mm) diameter probe to pass between adjacent members in any and all positions when rotating the hinge legs about their respective pivots.

5.6.2.3 The hinge legs shall allow a 0.375-in. (9.50-mm) diameter probe to pass between said hinge legs in any and all positions allowed when rotating the hinge legs about their respective pivots.

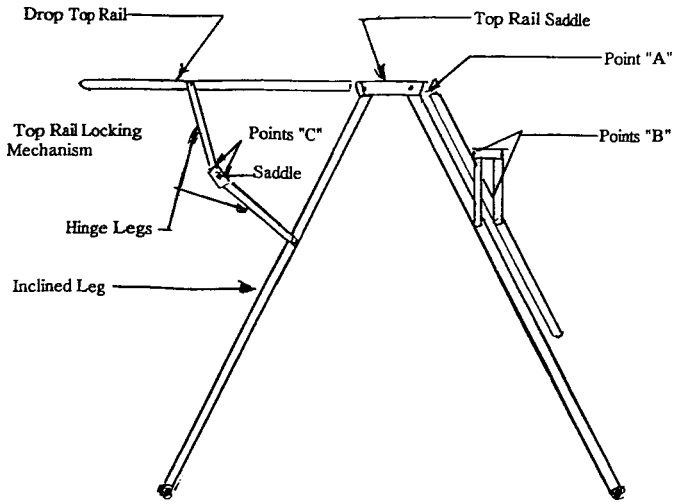

FIG. 1 Product Frame Components

5.6.2.4 At all intersections of the drop side rail locking mechanism (hinge legs with the saddle) (Point C, Fig. 1) the intersection of the probe greater than 0.210 in. (5.30 mm) in diameter, and less than 0.375 in. (9.50 mm) in diameter, and greater than 0.210 in. (5.30 mm) deep within the intersecting parts in any and all positions shall not be permitted.

5.7 *Latching and Locking Mechanisms* :

~~5.5.1Any play yard that folds shall have a latching or locking device or other provision in the design that will prevent the play yard from accidentally folding when placed in the manufacturer's recommended use position.~~

~~5.5.1.1During and upon completion of all testing, the play yard shall remain in its manufacturer's recommended use position.~~

~~5.5.1.2If a play yard is designed with a latching or locking device, that device shall remain engaged and operative after testing.~~

~~5.5.1.3Each single-action locking or latching device that is provided to prevent folding shall require a minimum force of 10 lbf (45 N) to activate the release mechanism when tested in accordance with 10.9~~

5.7.1 All latches that are intended to be latched and unlatched during normal use while the child is in the product shall engage automatically when placed in the use position before and after testing. Latches may be manually activated to allow placement into the use position but must engage automatically when released.

5.7.2 Any unit that folds shall have a latching or locking device or other provision in the design that will prevent the unit from unintentionally folding when properly placed in the manufacturer's recommended use position.

5.7.2.1 During and upon completion of all testing, the unit shall remain in its manufacturer's recommended use position.

5.7.3 If a unit is designed with a latching or locking device:

5.7.3.1 That device shall remain engaged and operative after testing.

5.7.3.2 Each single-action locking or latching device that is provided to prevent folding shall require a minimum force of 10 lbf (45 N) to activate the release mechanism when tested in accordance with 8.8.2.

~~5.5.1.4Each~~5.7.3.3 Each double-action locking or latching device that is provided to prevent folding shall require two distinct and separate actions for release. There are no force requirements for double-action locking or latching devices.

~~5.6*Top Rail Assembly with Central Hinge*—Play yard~~ 5.7.3.4 Product designs requiring latching or locking of a top rail(s) to prevent ~~folding, which includes~~folding that include central hinge(s) and rail assembly(ies) that moves downward when folded, as shown in Fig. 2~~, excluding play yards as shown in Fig. 1, shall have a locking device that automatically engages when placed in a manufacturer's recommended use position. No top rail shall give the appearance of being in the manufacturer's recommended use position unless the locking device is fully engaged.~~

~~NOTE1—No test procedure is necessary for 5.6.~~

~~5.7~~, *shall have a locking device that automatically engages when placed in a manufacturer's recommended use position.*

5.7.3.5 No top rail shall give the appearance of being in the manufacturer's recommended use position unless the locking device is fully engaged.

5.8 *Openings*:

~~5.7.1Any shaped holes, slots, or cracks that exist in the play yard in the manufacturer's recommended use position and that are accessible to the toes or fingers of the occupant through or recessed, or both, into the surface of any rigid material that admits a 0.210-in. (5.30-mm) diameter rod, also shall admit a 0.375-in. (9.50-mm) diameter rod. Openings that have a minimum dimension between 0.210 in. (5.30 mm) and 0.375 in. (9.50 mm) shall be permissible, providing the depth is no greater than the minimum dimension of the opening.~~

~~5.7.2Openings in the surface of the floor support made of rigid material shall be designed to prevent entrapment of fingers, toes, hands and feet if the occupant can readily move, lift, or fold the floor pad to expose the opening. Round openings shall comply with 5.7.1 and shall not exceed 1.25-in. (32-mm) diameter. For other shaped openings, the opening shall comply with 5.7.1 and~~

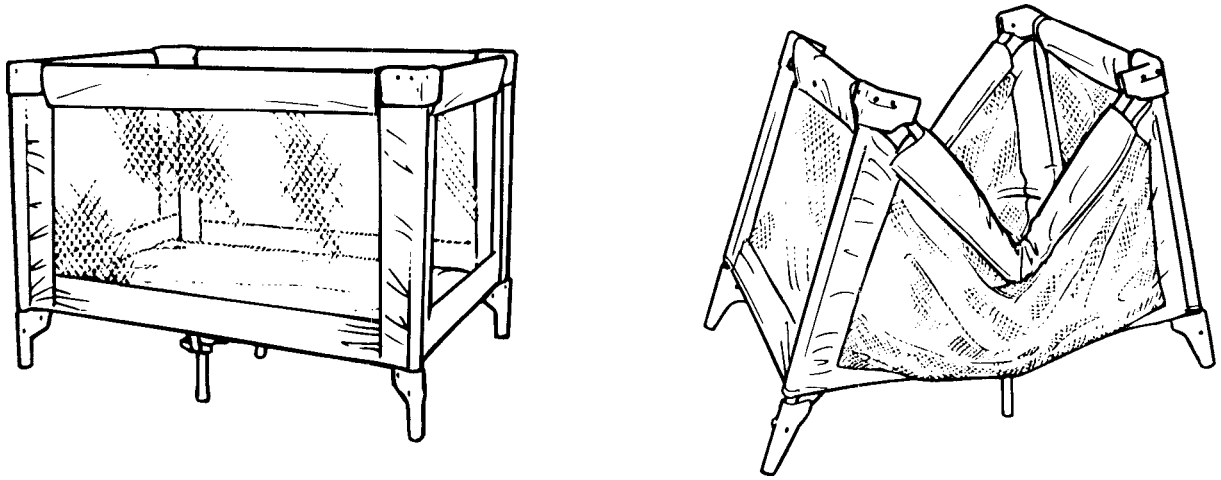

FIG. 2 Top Rail Assembly With Central Hinge(s)

~~any continuous portion of an opening that admits a 0.375-in. (9.50-mm) diameter rod must fit within a 1.25-in. (32-mm) diameter circle.~~

~~5.8*Protective Components*—If the child can grasp between the thumb and forefinger or teeth, components 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 components shall not be removed when tested in accordance with 10.11.~~

5.8.1 Any shaped holes, slots, or cracks that exist in the product in the manufacturer's recommended use position and are accessible to the toes or fingers of the occupant, through or recessed into the surface of any rigid material, that admit a 0.210-in. (5.30-mm) diameter rod shall also admit a 0.375-in. (9.50-mm) diameter rod. Openings that have a minor dimension between 0.210 in. (5.30 mm) and 0.375 in. (9.50 mm) shall be permissible, providing the depth is no greater than the minor dimension of the opening.

5.8.2 Openings in the surface of a mattress support made of a rigid material shall be designed to prevent entrapment of fingers, toes, hands, or feet if the occupant can readily move, lift, or fold the mattress to expose the opening. Round openings shall comply with 5.8.1 and shall not exceed 1.25 in. (32 mm) in diameter. For other shaped openings, the opening shall comply with 5.8.1 and any linear continuous portion of an opening that admits a 0.375-in. (9.50-mm) diameter rod must fit within a 1.25-in. (32-mm) diameter circle.

5.9 ~~*Nonpaper Labels*~~Protective Components:

~~5.9.1Nonpaper labels or decals, such as warning labels, brand name labels, decorative labels, or pinstriping, which may present a choking hazard if removed, must be permanent.~~

~~5.9.1.1Nonpaper labels that may present a choking hazard are those, which upon removal, fit entirely within the small parts cylinder as defined in 16 CFR 1501. Nonpaper labels that tear during the test to remove them are considered labels that may pose a choking hazard.~~

~~NOTE2—Paper labels are exempt from the small parts requirements of 16 CFR Part 1501 because paper cannot be meaningfully tested.~~

~~5.9.1.2Nonpaper labels attached by a seam, except warning labels, that tear along a seam only and do not yield a part which fits entirely within the small parts cylinder, as defined in 16 CFR 1501, are not considered labels that pose a choking hazard, and thus, are not required to be permanent.~~

5.9.1 If the 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 component shall not be removed when tested in accordance with 8.16.

5.10 ~~*Cord Length*—No cord having a free, stretched length in excess of 7.4 in. (188 mm), when tested in accordance with 10.17, shall be attached to a play yard. No cord intended or likely to be used to attach other products to the play yard shall be provided.~~ Labeling

5.10.1 Warning labels (whether paper or nonpaper) shall be permanent when tested per 8.13.

5.10.2 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 8.14.

5.10.3 Nonpaper labels shall not liberate small parts when tested in accordance with 8.15.

5.10.4 Storage pouch or other part with warning statements printed on it, excluding labels, shall be considered permanent if it cannot be removed when tested in accordance with 8.18.

5.11 ~~*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. (5.50 mm) or greater during static load testing, shall be covered or otherwise designed to prevent injury from entrapment.~~

~~5.12*Stability*—When subjected to test described in 10.16, a minimum of three perimeter support points of the product not in a straight line shall remain in contact with the inclined plane. Products with an adjustable mattress support shall be tested with the mattress in the lowest adjustable position.~~ —When subjected to the test described in 8.12, a minimum of three perimeter support points of the product not in a straight line shall remain in contact with the inclined plane. Products with an adjustable mattress support shall be tested with the mattress in the lowest adjustment position.

5.12 *Cord Length*— No cord or strap made of a flexible material such as fabric, elastic, or plastic having a free stretched length in excess of 7.4 in. (188 mm) shall be attached to a product. Test in accordance with 8.19. No cord or strap intended or likely to be used to attach toys or other products to the product shall be provided.

5.13 ~~*Corner Post Extensions*—All corner posts must meet the Specification F 966F 966~~Coil Springs— Any exposed coil spring that is accessible to the occupant, having or capable of generating a space between coils of 0.210 in. (5.30 mm) or greater during static load testing specified in 8.4, 8.6, 8.7, and 8.8 shall be covered or otherwise designed to prevent injury from entrapment.

5.14 *Mattress*:

5.14.1 Each product shall be sold with the mattress pad included.

5.14.2 For mesh/fabric products, the filling material of the mattress such as foam, fiberfill, etc. shall not exceed 1 in. (25 mm) in thickness. The total thickness of the mattress including all fabric or vinyl layers, filling material and any structural members such as wood, hardboard, etc. shall not exceed 1½ in. (37 mm).

5.15 *Protrusions*—Neither string on the weight gage shall stay attached to a protrusion when tested in accordance with 8.20.

~~**6.Performance Requirements for Rigid-Sided Play Yards**~~

~~6.1After all testing, the play yard shall comply with 16 CFR Part 1509.~~

6. Performance Requirements for Rigid Sided Products

6.1 After all testing, the product shall comply with Title 16 Code of Federal Regulations (CFR) Part 1509.

6.2 *Vertical Impact Testing*—These tests assist in evaluating the structural integrity of the ~~play yard~~unit assembly. Glue joints and other means of fastening are subjected to abusive loads and stresses.

6.2.1 ~~*Pad/Mattress Support*—This test consists of dropping a mass repeatedly onto the pad or mattress provided with the play yard, in accordance with the test method described in 10.1. If a pad or mattress is not provided with the play yard, use the pad specified in 10.1.1.2. Upon completion of testing, components attached by glue, screws, or other fastening means shall not have separated by more than 0.040 in. (1.00 mm) over original configuration.~~ Mattress Support Testing:

6.2.1.1 This test consists of dropping an impactor repeatedly onto the mattress pad provided with the product (see 8.1).

6.2.1.2 Upon completion of testing, components attached by glue, screws or other fastening means shall not have separated by more than 0.04 in. (1 mm) over original configuration.

6.2.2 *Side or End Testing, or Both* ~~—This~~ :

6.2.2.1 This test consists of repeatedly impacting the bottom rail of a ~~play yard~~ unit side or end with a ~~weight in accordance with the test method described in~~ mass. See ~~10.2~~8.2.

6.2.2.2 Upon completion of testing, components attached by glue, screws, or other fastening means shall not have separated by more than ~~0.040~~0.04 in. ~~(1.00~~(1 mm) over their original configuration.

6.3 ~~*Pad/Mattress Support System*—These tests assist in evaluating the integrity of the attachment of the pad/mattress support to the play yard.~~

~~6.3.1A pad/mattress support, which is fixed with respect to the play yard frame, is tested in accordance with 10.3. Test failure occurs if the pad/mattress support system becomes detached from the frame at any point of attachment or if the force cannot be maintained.~~

~~6.3.2A pad/mattress support, which is not fixed on opposite sides to the play yard frame, is tested in accordance with 10.3.3, that is, a hinged or a support created by a recessed area in which the pad/mattress support sits. Test failure occurs if (*a*) any portion of the support system becomes detached from the play yard at any point of attachment, or (*b*) if any free moving portion of the support system does not return to its intended use position once the force is removed.~~ Mattress Support System Testing— These tests assist in evaluating the integrity of the attachment of the mattress support to the product.

6.3.1 A mattress support that is fixed with respect to the unit frame, is tested in accordance with 8.3. Test failure occurs if the mattress support system becomes detached from the frame at any point of attachment, or if the force cannot be maintained.

6.3.2 A mattress support that is not fixed on opposite sides to the unit frame (for example, a hinged support or a support created by a recessed area in which the mattress support sits) is tested by gradually applying a 25-lbf (110-N) force in any direction to the mattress support to evaluate its attachment to the unit. The force is to be applied to the mattress support in each adjustment position. Test failure occurs if:

6.3.2.1 Any fixed portion of the mattress support system becomes detached from the unit at any point of attachment.

6.3.2.2 Any free-moving portion of the mattress support system that does not return to its intended use position once the force is removed. The force shall be removed after the force of 25 lbf (110 N) has been applied or the edge of the mattress support has been lifted at least 12 in. (300 mm).

6.4 ~~*Foldable Side or End Latch*—This test consists of loading the latches intended to prevent folding of the sides/ends when in the manufacturer's use position, in accordance with the test method described in 10.4. The latching mechanism shall not disengage during testing and shall continue to function in the intended manner upon completion of the testing.~~ Side(s) and/or End(s) Latch Testing—This test assists in evaluating the integrity of the dropside(s) and/or end(s) latching system under abusive load conditions.

6.4.1 *Dropside Latch Testing*:

6.4.1.1 This test consists of horizontally loading the end while a prescribed force is applied to the dropside(s) (see 8.4.3 or 8.4.4).

6.4.1.2 The latching mechanism shall not disengage during testing and shall continue to function in the intended manner upon completion of the testing.

6.4.2 *Foldable Side or End Latch Testing*:

6.4.2.1 This test consists of loading the latches intended to prevent folding of the side when in the manufacturer's recommended use position (see 8.4.5).

6.4.2.2 The latching mechanism shall not disengage during testing and shall continue to function in the intended manner upon completion of the testing.

6.5 *Plastic Teething Rail*~~—This~~ :

6.5.1 This test consists of deforming the plastic teething rail under load to determine the security of the attachment.

6.5.2 Failure occurs when the feeler ~~gage,~~gage as defined in ~~10.5.1.1~~8.5.1.1~~,~~ can freely enter into a gap created by the deflection or ~~deformation, or both,~~ deformation of the plastic teething rail, or both, when tested in accordance with ~~10.5~~8.5.

7. ~~Performance Requirements for Mesh/Fabric Play Yards~~ Performance Requirements for Mesh/Fabric Products

NOTE~~3—Mesh/fabric play yards~~ 2—Mesh/fabric products that include a rigid side, end, or floor should be tested in accordance with Section 6 on that side, end, or floor.

7.1 *Height of Sides*—~~The height of the sides of the play yard shall be a minimum of 21 in. (531 mm) when measured vertically from the floor of the play yard, if a floor pad is provided, or 20 in. (508 mm) from the top of the uncompressed floor pad to the top of the side rail when the side rail is in its fully erected position.~~ — With mattress support in its lowest position, the height of sides of a unit shall be a minimum of 20 in. (508 mm) from the top of the noncompressed pad to the top of the side rail when the side rail is in its fully erected position.

7.2 *Side Deflection and Strength* —All tests in this section are to be performed sequentially.

~~7.2.1The top rail and supporting members of the play yard shall not have a permanent deflection that reduces the height to less than that specified in~~

7.2.1 Top rails and supporting members of the unit shall withstand a static load and shall not fracture, disengage, fold, or have a permanent deflection that reduces the height to less than that specified in 7.1 ~~,~~when tested in accordance with ~~10.6.2.2~~8.6.2.2.

~~7.2.2The~~7.2.2 The side of the ~~play yard~~ unit shall not deflect under ~~a force~~ load to a height less than 18 in. (460 mm) when measured vertically at the location where the ~~force~~load is applied when tested in accordance with ~~10.6.2.3~~8.6.2.3.

~~7.2.3The~~7.2.3 The top rail and locking mechanism of ~~play yards~~the units having a top rail assembly with a central hinge (see Fig. ~~2~~3) shall not break or disengage when tested in accordance with ~~10.6.2.4~~8.6.2.4.

7.3 *Floor Strength*—~~The floor of the play yard shall withstand an application of a static load and a dynamic load without creating any hazardous condition as addressed in this specification when tested in accordance with 10.7.~~ — The floor of the unit

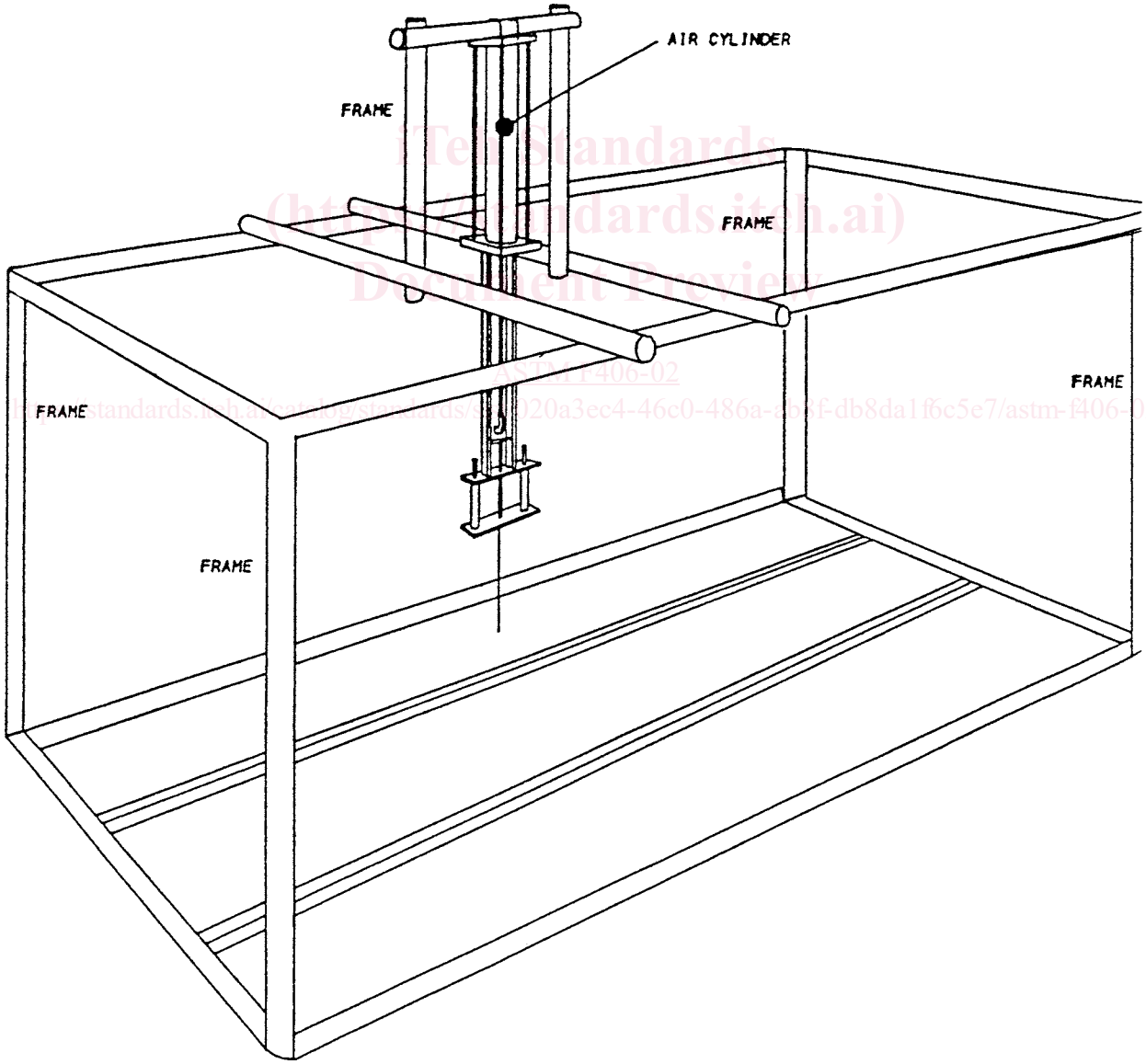

FIG. 3 Typical Test Frame

shall withstand application of a static load and a dynamic load when tested in accordance with 8.7. After completion of the test, the product shall comply with all requirements in Section 5 and have no structural failure in the frame, sides, ends, or floor.

7.4 ~~*Mesh Openings*—Opening in the mesh shall be designed to prevent entrapment of fingers, toes, and snaring of buttons normally used on infant clothing. A mesh opening shall not accept the specified rod when tested in accordance with 10.8~~Top Rail Covering Material —When unsupported or nonreinforced vinyls are used to cover any top rail or component, the thickness of the vinyl shall not be less than 0.011 in. (0.28 mm) when measured in accordance with 8.17.

7.5 *Mesh Requirements*:

7.5.1 *Mesh Openings*— Openings in the mesh shall be designed to prevent entrapment of fingers and toes and the snaring of buttons normally used in infant clothing. A mesh opening shall not admit a 0.250-in. (6.30-mm) diameter rod with a full-radius tip, when tested in accordance with 8.9.

7.5.2 *Mesh Strength*~~—When tested in accordance with 10.14, no mesh shall break, rupture, or become separated from its supporting structure or attachments.~~ — No mesh shall, when tested in accordance with Section 8.10:

7.5.2.1 Break or rupture, or

7.5.2.2 Become separated from its supporting structure or attachments.

7.6 ~~*Top Rail Covering Materials*—When unsupported or nonreinforced vinyls are used to cover any top rail or component, the thickness of the vinyl shall not be less than 0.011 in. (0.28 mm) when measured in accordance with 10.13.~~

~~7.7~~*Fabric Material Requirements* :

~~7.7.1*Fabric Strength (see* Note 4*)*—Fabric material used for sides, ends, or floor support, excluding mesh, shall have a breaking strength of at least 50 lbf (220 N) when tested in accordance with the grab test described in Test Method D 5034~~

7.6.1 *Fabric Strength*— See Note 3 in 8.9.

7.6.1.1 Fabric materials used for sides, ends, or floor support, excluding mesh, shall have a breaking strength of at least 50 lbf (220 N) when tested in a dry condition in accordance with the grab test in Section 9 of Test Methods D 5034D 5034, in both the warp and fill directions.

7.6.1.2 Fabric materials, used for sides, ends, or floor ~~support,~~support excluding mesh, shall have a tear resistance of at least 2 lbf (9 N) when tested in accordance with Test Method D 1424D 1424 ~~in both the warp and fill directions. (See Note 4.)~~

~~7.8*Mesh/Fabric Assembly Requirements (See* Note 4*)*:~~

~~7.8.1*(Elmendorf) in both the warp and fill direction.*~~

7.7 *Mesh/Fabric Assembly Requirements* —See Note 3 in 8.9.

7.7.1 *Sewn Assembly*— All stitching that is used in the sides, ends, or floor support and is accessible to the ~~occupant,~~occupant shall be lock-stitching or a chain- stitch where the key thread is not accessible to the occupant. The key thread is a thread at the end of ~~the seam, which~~a seam that if ~~pulled,~~pulled will pull the stitching apart and disassemble the sewn assembly.

~~7.8.2~~7.7.2 *Seam Strength*— All seams used in the sides, ends, or floor support of the ~~crib shall~~unit shall, when tested in accordance with Test Method D 1683D 1683~~, Section 9, have a breaking strength of not less than 30 lbf (135 N). All labels or other attachments which can be grasped between the thumb and forefinger, and are secured by a seam, shall not separate from the product when subjected to a 15-lbf (67-N) pull force applied in any direction using a clamp with a ¾-in. (19-mm) diameter clamping surface.~~ , have a breaking strength of not less than 30 lbf (130 N).

NOTE ~~4~~3—Samples required in this section should be taken from a new product assembly ~~and/or~~or representative raw materials, or both.

~~7.8.3~~7.7.3 *Mesh/Fabric Attachment Strength* —All locations where a mesh/fabric or fabric assembly is ~~fastened~~ mechanically fastened to a rigid structural ~~elements, for~~element (for example, fastening of the mesh/fabric side to the perimeter of the ~~hardboard floor,~~hardwood floor) shall not disengage or deform under a ~~load,~~load such that the fabric can be disassembled when tested in accordance with ~~10.15~~8.11.

~~7.9*Floor Pad*—The filling material of the floor pad such as foam, fiber fill, etc. shall not exceed 1 in. (25 mm) in thickness. The total thickness of the floor pad including all fabric or vinyl layers, filling material and any structural members such as wood, hardboard, etc. shall not exceed 1 ½ in. (37 mm). If a play yard is designed to use a floor pad, the floor pad must be provided by the manufacturer.~~

~~8.Labeling and Warnings~~

~~8.1Each play yard and its retail carton shall be marked clearly and legibly to indicate the following:~~

~~8.1.1Name and place of business (city, state, and mailing address, including zip code) of the manufacturer, importer, distributor, or seller.~~

~~8.1.2Model number, stock number, catalog number, item number, or other symbol expressed numerically, or otherwise, such that only articles of identical construction, composition, and dimensions shall bear identical markings. The manufacturer shall change model number whenever a significant structural or design modification is made that affects its conformance with this consumer safety specification.~~

~~8.1.3Code mark or other means that identifies the date (month and year as a minimum) of manufacture.~~

~~8.2Any upholstery label required by law shall not be used to meet the requirements of 8.1.~~

~~8.3*Warning Statements*:~~

~~8.3.1Each play yard shall have warning statements. The warning statements shall be in contrasting color(s), permanent and~~