



Designation: F2388 – 17

Standard Consumer Safety Specification for Baby Changing Products for Domestic Use¹

This standard is issued under the fixed designation F2388; 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 baby changing products identified by the U.S. Consumer Product Safety Commission (CPSC). Incidents involved collapse, falls from the table, and entrapment in structural members.

In response to incident data collected by CPSC, this consumer safety specification attempts to minimize the risk of injury and death due to: (1) falls from changing tables, (2) failure of structural or mechanical components, (3) instability and entrapment in openings in the table structure, and (4) suffocation. This specification also contains requirements for warnings and instructional materials directed to parents or caregivers.

1. Scope

1.1 This consumer safety specification covers performance requirements, test methods, and labeling requirements to promote the safe use of baby changing products including changing tables, changing table accessories, contoured changing pads, and add-on changing units.

1.2 This specification covers products sold for domestic use for children up to a weight of 30 lb (13.6 kg).

1.3 Changing products shall meet all applicable performance and labeling requirements.

1.4 No changing product produced after the approval date of this 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.

1.5 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.

1.6 The following precautionary caveat pertains only to the test method portion in Section 7 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 requirements prior to use.

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

2. Referenced Documents

2.1 *ASTM Standards:*²

- D3359 Test Methods for Rating Adhesion by Tape Test
- F406 Consumer Safety Specification for Non-Full-Size Baby Cribs/Play Yards
- F963 Consumer Safety Specification for Toy Safety
- F1169 Consumer Safety Specification for Full-Size Baby Cribs
- F2057 Safety Specification for Clothing Storage Units

2.2 *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 sections:
- 16 CFR 1500.48 Technical Requirements for Determining a Sharp Point in Toys or Other Articles Intended for Use by Children Under Eight Years of Age

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 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.

³ Available from U.S. Consumer Product Safety Commission (CPSC), Washington, D.C. 20207, website: www.cpsc.gov.

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

6 CFR 1500.50-.52 Test Methods 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 Three Years of Age Which Present Choking, Aspiration or Ingestion Hazards Because of Small Parts

2.3 ANSI Standards:⁴

ANSI Z535.4 American National Standard for Product Safety Signs and Labels

ANSI Z535.6 American National Standard: Product Safety Information in Product Manuals, Instructions, and Other Collateral Materials

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *add-on changing unit, n*—a rigid addition to or separate product used in conjunction with an item of furniture that provides a changing surface or barriers, or both.

3.1.2 *barrier, n*—any component of the changing product intended to prevent a child from rolling or falling off the changing surface.

3.1.3 *changing pad, n*—a flat or contoured pad specifically designed for the purpose of changing the diaper of a child with a body weight of up to 30 lb (13.6 kg) on an elevated surface. The child is placed on the pad during the process of changing.

3.1.4 *changing product*—one of the following: changing table, changing table accessory, add-on changing unit, contoured changing pad.

3.1.5 *changing surface, n*—the surface that is in direct contact with the child when the changing product is in the manufacturer’s recommended use position.

3.1.6 *changing table, n*—an elevated, freestanding structure generally designed to support and retain a child with a body weight of up to 30 lb (13.6 kg) in a horizontal position for the purpose of allowing a caregiver to change the child’s diaper. Changing tables may convert from or to other items of furniture, such as, but not limited to, a dresser, desk, hutch, bookshelf, or play yard, may have pull-out or drop-down changing surfaces, and may provide storage for diapers and diaper products.

3.1.7 *changing table accessory*—an accessory that attaches to a crib or play yard designed to convert the product into a changing table typically having a rigid frame with soft fabric or mesh sides or bottom surface, or both.

3.1.8 *conspicuous, adj*—visible when the changing product is in any manufacturer’s recommended use position, to a person in a position normally associated with the task of changing a child’s diaper.

3.1.9 *contoured changing pad, n*—a changing pad designed for use on an elevated surface which incorporates barriers to prevent a child from rolling off the changing surface.

3.1.10 *double action release mechanism, n*—a release mechanism that requires either two consecutive actions, the first of which must be maintained while the second is carried out, or two separate and independent single action locking mechanisms that must be activated simultaneously to fully release.

3.1.11 *key structural elements, n*—side assemblies, end assemblies, base assemblies, leg assemblies, primary changing surface supports, or other components designed to support the weight of the occupant, or a combination thereof (see Fig. 1).

3.1.12 *manufacturer’s recommended use position(s), n*—any position that is presented as a normal, allowable, or acceptable configuration for the use of the product as a diaper changer 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.

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

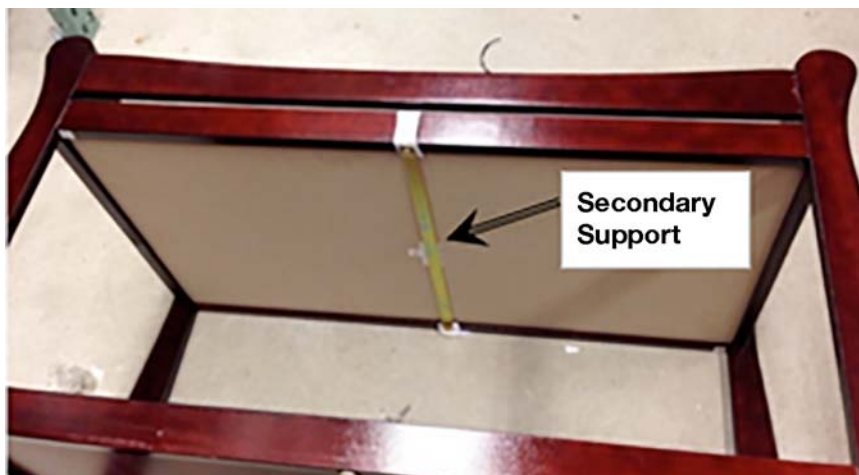


FIG. 1 Example of Secondary Support Component

3.1.13 *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 sharp defined edge.

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

3.1.15 *secondary support component, n*—a strap, bar, rod, or other component that is consumer installed and provides added support, to the changing surface of the changing table.

3.1.16 *self-folding steps, n*—steps which must be held open by an adult caregiver that, when released, fold away and latch automatically into their normally closed position.

3.1.17 *support surface, n*—a surface to which a changing pad, changing table accessory, or add-on changing unit may be mounted according to manufacturer's instructions.

3.1.18 *threaded fastener, n*—a discrete piece of hardware that has internal or external screw threads which is used for the assembly of multiple parts and facilitates disassembly.

4. Calibration and Standardization

4.1 All testing shall be conducted on a concrete floor, which may be covered with 1/8-in. (3-mm) thick vinyl flooring cover, unless test instructs differently.

4.2 Unless otherwise noted, the product shall be completely assembled in accordance with the manufacturer's instructions, including any pad supplied by the manufacturer or pad the manufacturer requires, for product to be used as a changing table.

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

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

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

5. General Requirements

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

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

5.3 *Surface Coatings*—The paint or surface coating on the product shall comply with 16 CFR 1303.

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

5.5 *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 use positions.

5.6 Changing table accessories intended to be attached to a non-full-size crib/play yard shall conform to the requirements of this specification and the applicable requirements of Consumer Safety Specification F406 when attached in the manufacturer's recommended use position.

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

5.8 Threaded Fasteners:

5.8.1 Wood Screws and Sheet Metal Screws:

5.8.1.1 No changing table shall require consumer assembly of key structural elements using wood screws or sheet metal fasteners directly into wood components. This shall not apply to non-key structural elements such as drawers, secondary support components, other storage components, accessory items and the fasteners used for attaching contoured pads and add-on changing units to other supporting furniture. This shall also not apply to the fasteners used for changing tables which are also clothing storage units which fall under the scope of Safety Specification F2057.

5.8.2 Metal inserts, with external wood screw threads for screwing into a wood component and providing internal machine threads to accommodate a machine screw, that are used to secure key structural elements shall be glued or include other means to impede loosening or detaching.

5.8.3 Metal threaded fasteners, such as sheet metal screws and machine screws, secured into metal components and used to attach key structural elements shall have lock washers, self-locking nuts, or other means to impede loosening as defined in 6.2 or detachment during the testing required by this specification.

6. Performance Requirements

6.1 *Protective Components*—If a child can grasp protective 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 protective component and its adjacent parent component, such protective component shall not be removed when tested in accordance with 7.1.

6.2 *Structural Integrity*—When tested in accordance with 7.2, there shall be no breakage of the unit, nor shall it fail to conform with any other requirements in this specification before and after all testing. Threaded fasteners used for key structural elements shall not have separated by more than 0.04 in. (1 mm) upon completion of testing.

NOTE 1—Contoured changing pads and add-on changing units that are sold separately are exempt from this requirement.

6.3 *Stability*—When tested in accordance with 7.3, the unit shall not tip over.

NOTE 2—Contoured changing pads and add-on changing units that are sold separately are exempt from this requirement.

6.4 Barriers:

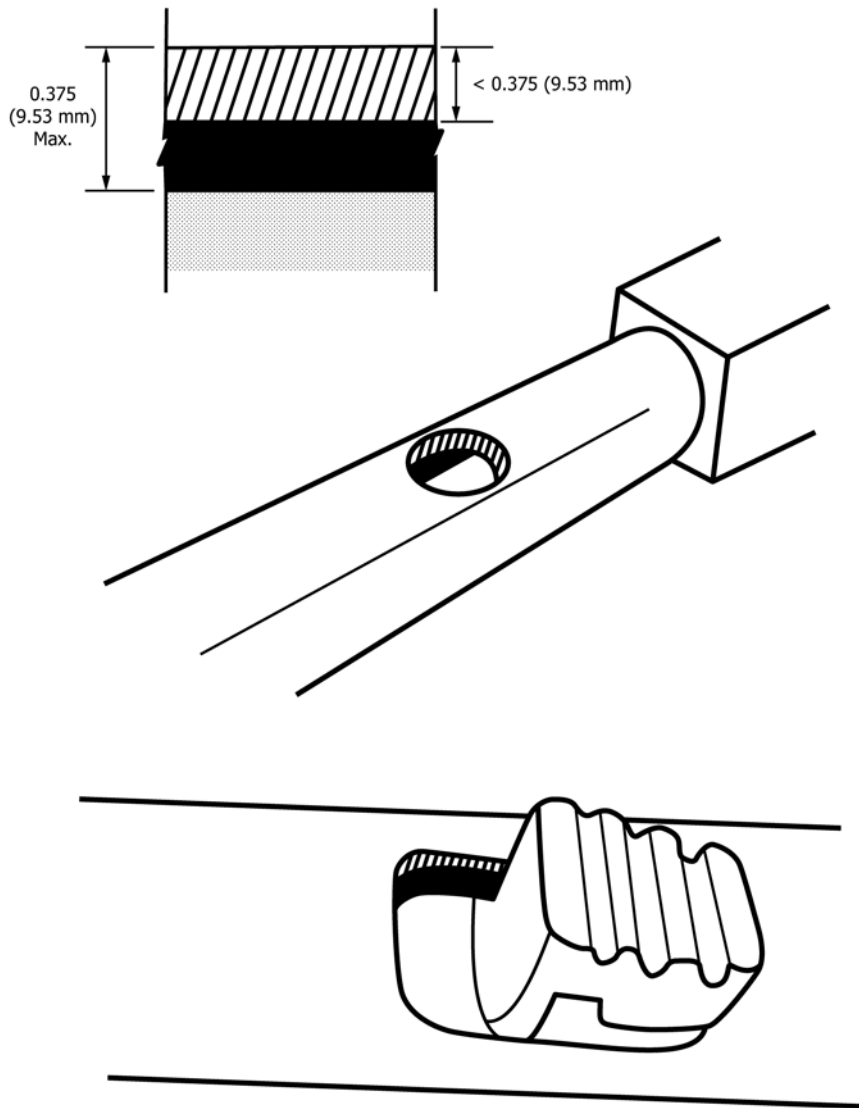


FIG. 2 Opening Examples

6.4.1 All changing products shall include barriers as an integral part of the product.

6.4.2 For changing products with a flat changing surface, barriers shall be provided around all sides of the changing surface.

6.4.3 Contoured changing pads shall have barriers on the two opposing long sides.

6.4.4 When tested in accordance with 7.4, barriers shall prevent the test cylinder from falling from the changing surface and shall not break or fail to conform with the requirements of Section 5.

6.5 *Retention of Contoured Changing Pads and Add-on Changing Units:*

6.5.1 When tested in accordance with 7.4, the contoured changing pad or add-on changing unit shall not shift or slide more than 1 in. (25 mm) in any direction from its original position.

6.5.1.1 If tabs or straps are provided to secure the contoured changing pad, when tested in accordance with 7.4, the pad shall

not shift or slide more than 1 in. (25 mm) in a direction opposite from the edge containing attachment tabs or straps.

NOTE 3—Changing table accessory installed on non-full-size cribs/play yards are exempt from this requirement, as they must comply with the retention and opening/entrapment requirements specified in Consumer Safety Specification F406, “Entrapment in Attachments” Section.

6.6 *Entrapment in Enclosed Openings*—When tested in accordance with 7.5, there shall be no completely bounded openings (openings surrounded by a boundary on all sides) anywhere in the structure of a changing table that are accessible to the occupant or a child around the base of the product and that permit the free passage of the torso probe shown in Fig. 6 unless they also permit the free passage of the 9.0-in. (229-mm) diameter probe shown in Fig. 7. Exempt from this requirement are self-folding steps when in their open position.

6.7 *Entrapment by Shelves*—When tested in accordance with the procedure in 7.6, any shelf above 4.3 in. (109 mm) from the floor that, because its movement may expose an opening that could entrap a child’s head, shall not permit the

15 lbf (67N) MAX TENSION

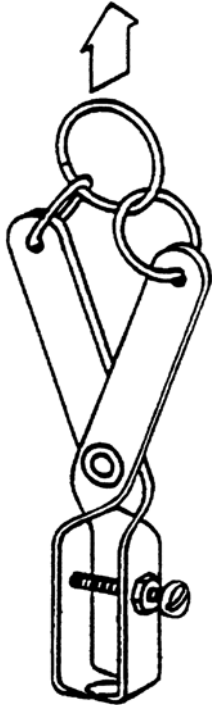


FIG. 3 Tension Test Clamp

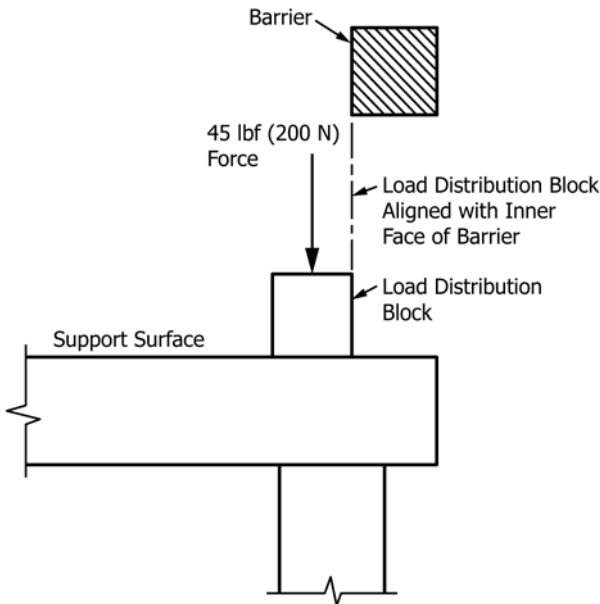


FIG. 4 Stability Test

shall require a minimum force of 10 lbf (45 N) to activate the release mechanism when tested in accordance with 7.7.

6.9 Restraint System:

NOTE 4—A restraint system may be provided to restrict upward or lateral movement of the occupant’s torso. Inclusion of a restraint system is not mandatory.

6.9.1 If a restraint system is installed on the product or available as an option, it shall meet the following:

6.9.1.1 A restraint system and its closing means (for example, buckle) shall not break or separate when tested in accordance with 7.8.

6.9.1.2 The anchorages shall not separate from the product when tested in accordance with 7.8.

6.9.1.3 Restraints shall be capable of adjustment with a positive, self-locking mechanism that is capable, when locked, of withstanding the forces of tests in 7.8 without allowing restraint movement or slippage of more than 1 in. (25.4 mm).

7. Test Methods

7.1 Removal of Protective Components—Protective components shall be tested in accordance with each of the following methods in the sequence listed.

7.1.1 Torque Test—Gradually apply a torque of 3 lbf-in. (0.3 N-m) within a period of 5 s in a clockwise direction until either the component rotates 180° from the original position or a torque of 3 lbf-in. (0.3 N-m) is attained. The torque or maximum rotation shall be maintained for an additional 10 s. The torque shall then be removed and the protective component permitted to return to a relaxed condition. This procedure shall then be repeated in a counterclockwise direction.

7.1.2 Tension Test:

7.1.2.1 Attach a force gage to the cap, sleeve or plug by means of any suitable device. For protective components that cannot reasonably be expected to be grasped between thumb and forefinger or teeth on their outer diameter but have a gap of at least 0.040 in. (1.00 mm) between the rear surface of the protective component and the structural member of the changing table to which they are attached, a clamp such as the one shown in Fig. 3 may be a suitable device.

7.1.2.2 Assure that the attachment device does not compress or expand the protective component so that it hinders any possible removal.

7.1.2.3 Gradually apply a 15-lbf (67-N) force in the direction that would normally be associated with the removal of the protective component over a 5-s period and hold for an additional 10 s.

7.2 Structural Integrity—Assemble the product in accordance with the manufacturer’s assembly instructions. If the product design employs secondary support components beneath the changing surface that are not factory preassembled in their intended use position, this test is to be conducted without the secondary support components installed. Place the product on the test floor, center a 6 by 6 in. (150 by 150 mm) wood block on the changing surface and gradually apply a 100 lb (45.4 kg) weight onto the wood block within a period of 5 s. Maintain the weight for an additional period of 60 s.

entire passage of the small head probe shown in Fig. 8 through the exposed opening. Excluded from this requirement are pullout drawers and shelves enclosed within a cabinet equipped with a door(s).

6.8 Self-folding Steps—Self-folding steps shall be secured in their closed position by either a double action release mechanism, or a single-action locking or latching device that

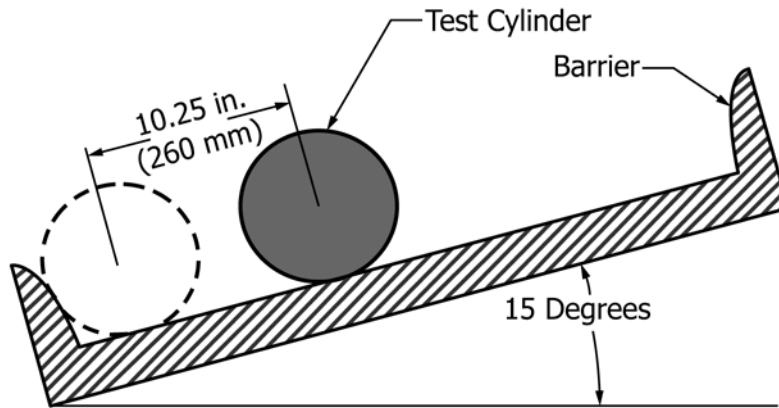
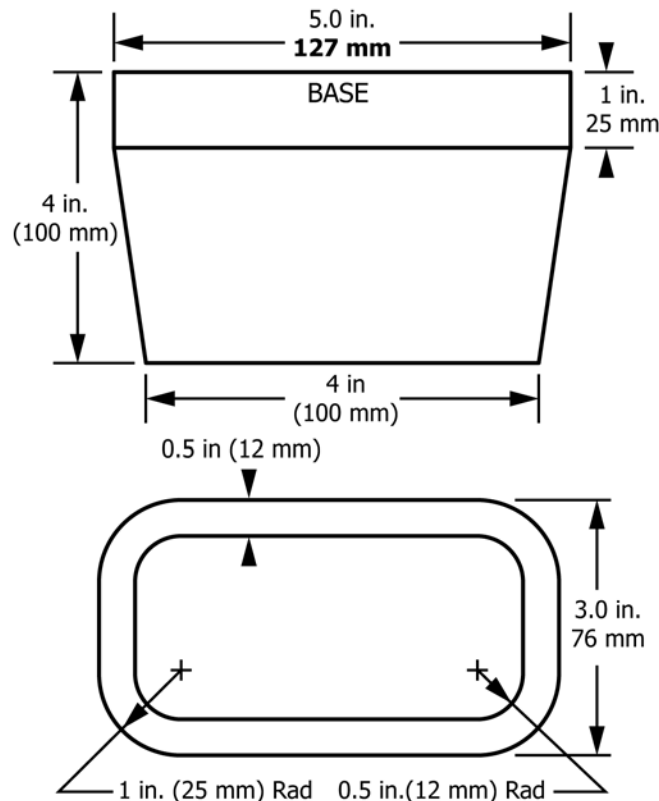


FIG. 5 Barrier Retention Test



Material: Any rigid Material

FIG. 6 Torso Probe

7.3 *Stability*—Remove the changing pad if it is detachable. Gradually apply a 45-lbf (200-N) vertically downward force to the edge of the support surface that is deemed most likely to cause tipping. The force shall be applied to the center of a load distribution block (see Fig. 4) fabricated from a rigid material $\frac{3}{4}$ -in. (19-mm) wide by $\frac{3}{4}$ -in. (19-mm) thick by 3-in. (80-mm) long. The force shall be applied with the 3-in. (80-mm) dimension of the block aligned with the edge of the support surface (see Fig. 4). The force shall be applied gradually within a period of 5 s and maintained for an additional 10 s.

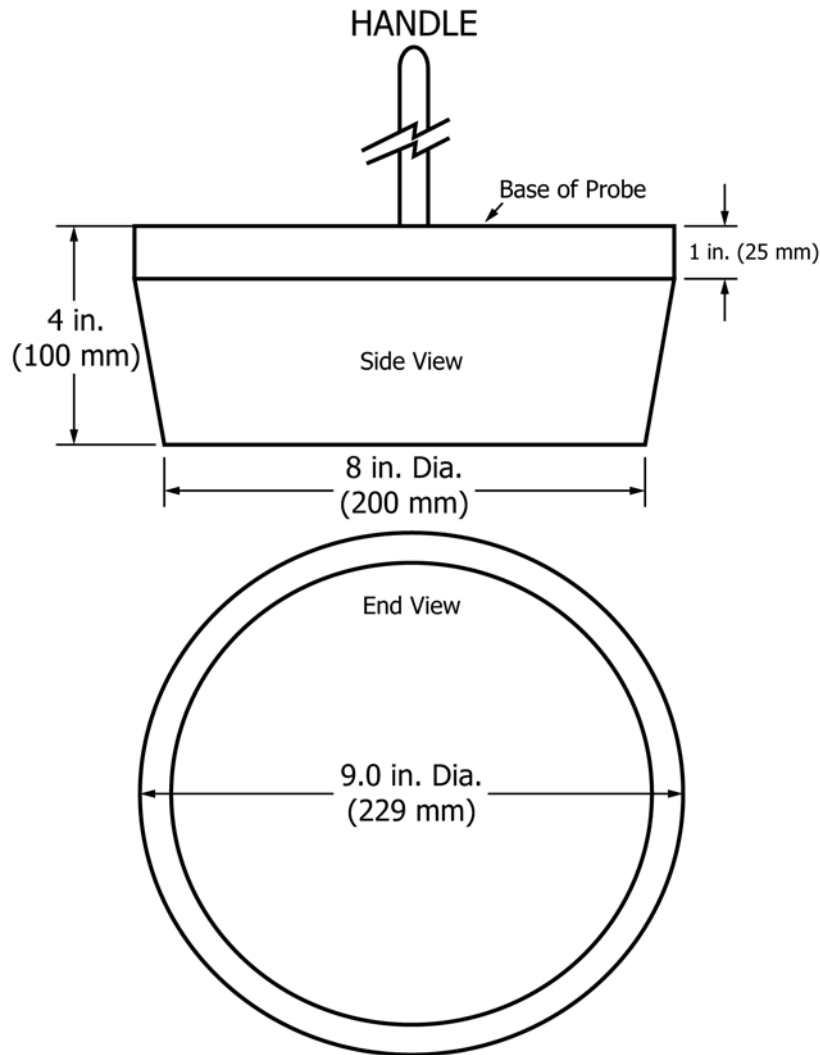
7.4 *Barrier Structural Integrity and Retention Tests:*

7.4.1 *Test Equipment:*

7.4.1.1 Rigid cylinder with a diameter of 8 in. (200 mm), a length of 12 in. (300 mm), and a mass of 33 lb (15 kg).

7.4.1.2 Timing device capable of displaying seconds.

7.4.2 *Test Set Up*—Assemble the product in accordance with the manufacturer’s assembly instructions. If the product design employs secondary support components beneath the changing surface that are not factory preassembled in their intended use position, this test is to be conducted without the support bars/straps installed.



Material: Any rigid material

FIG. 7 Large Head Probe

7.4.3 Changing tables or add-on changing units that mount to the support surface.

7.4.3.1 Test procedure for changing tables with integral barriers (barriers independent of the changing pad) or add-on changing units with integral barriers (barriers independent of the changing pad) that mount to the support surface on an item of furniture in the manufacturer’s recommended use position:

NOTE 5—Changing table accessories for use with play yards, cribs, etc. are excluded from this requirement as they are covered under 7.4.6.

(1) Place the changing table or add-on changing unit in the manufacturer’s recommended use position on a test surface inclined 15° to the horizontal. Secure the changing table to the test surface to prevent movement or overturning. Secure the add-on changing unit to the test surface per the manufacturer’s instructions.

(a) For purposes of this test, an add-on changing unit that mounts to the support surface on an item of furniture in the manufacturer’s use position and is recommended for use ONLY on specific furniture model(s) shall be tested on the specified models.

(2) Place the pad provided with the product or a pad of the largest dimensions specified by the manufacturer on the support surface.

(3) Position the test cylinder in such a way that its longitudinal axis is parallel to the safety barrier to be tested and resting on the pad, against that barrier.

(4) Roll the cylinder away from the barrier and release it when the longitudinal axis is at a distance of 10.25 in. (260 mm) from its at-rest position against the barrier (see Fig. 5) or until it contacts the opposite barrier, whichever distance is less.

(5) Repeat the testing in this section for the barrier on the other sides of the changing table or add-on changing unit.

7.4.4 Contoured changing pads sold with a changing table.

7.4.4.1 Test procedure for changing tables sold with a contoured changing pad (barriers integrated into the changing pad).

(1) Secure the changing table to a platform that can be inclined ±15° to the horizontal with the long axis of the trough of the changing surface parallel to the tilting axis of the platform.

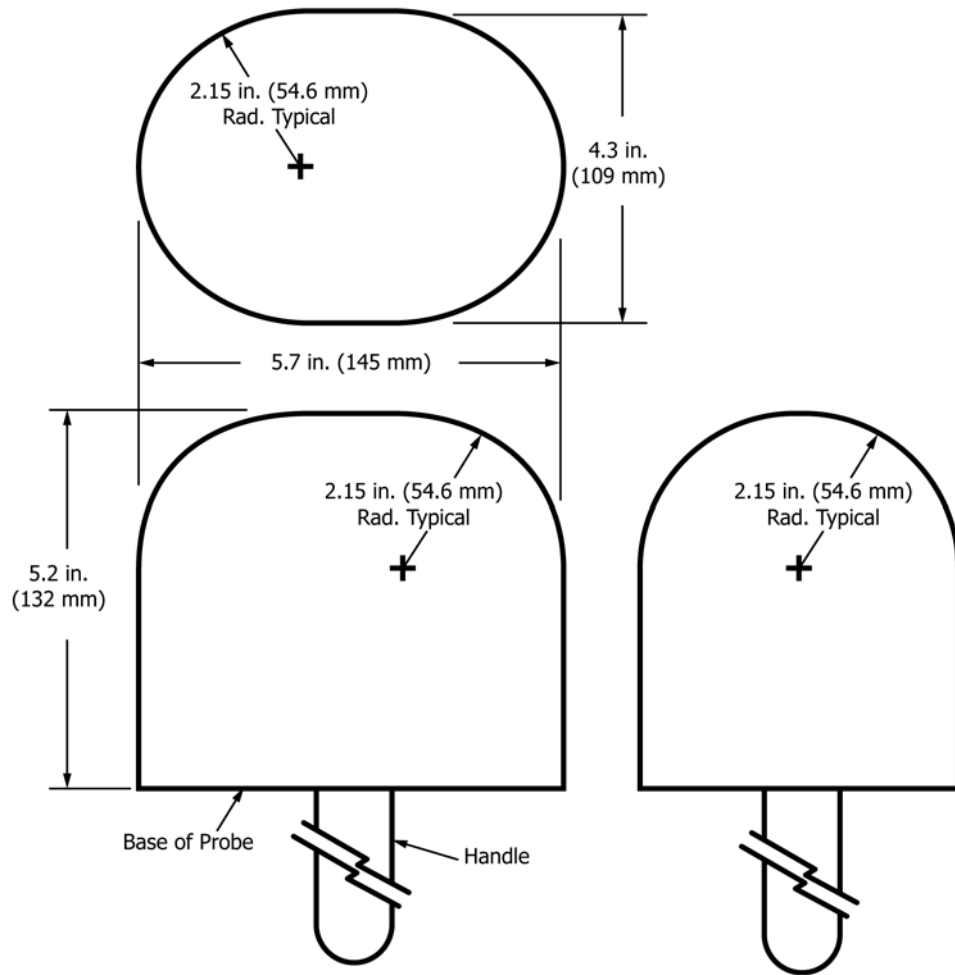


FIG. 8 Small Head Probe

(2) *Preconditioning (Aging)*: Place test cylinder on the contour surface of the pad in such a way that its longitudinal axis is parallel to the wall or barrier to be tested. Manually roll test cylinder from one inside edge of pad surface to within 1 in. (25 mm) of the opposite inside edge 100 times, being careful not to add additional downward force other than the weight of the cylinder to the pad. Remove test cylinder. Allow a minimum of 1 h before proceeding with additional testing.

(3) With the platform on which the changing table is secured horizontal, place the test cylinder on the center of the changing surface with its axis parallel to the tilt axis of the platform.

(4) Incline the platform to +15° at a rate of 1°/s and allow it to remain in this position for 1 min.

(5) Move the tilting platform through its tilting axis to a -15° position at a rate of 1°/s and allow it to remain in this position for a period of 1 min.

7.4.5 Contoured changing pads and add-on changing units that do not mount to the support surface.

7.4.5.1 Test procedure for contoured changing pads sold separately and add-on changing units sold with contoured changing pads (barriers integrated into the changing pad) or

add-on changing units with integral barriers (barriers independent of the changing pad) that do not mount to the support surface of an item of furniture.

(1) *Test Surface*—For contoured changing pads and add-on changing units sold separately, the test surface shall be an impregnated high-pressure laminate of unspecified color with a smooth matte finish. The laminate shall be mounted on a flat surface with a thickness no less than 3/4 in. (19 mm), in accordance with the laminate manufacturers instructions.

(2) *Test for contoured changing pads sold separately and add-on changing units sold separately*:

(a) Place the contoured changing pad or add-on changing unit on the test surface so that the contoured changing pad or add-on changing unit does not overhang the test surface in any direction. Secure the contoured changing pad or add-on changing unit to surface per manufacturer's instructions if straps or other securing means are part of the pad design.

(b) *Preconditioning (Aging)*: Place test cylinder on the contour surface of the pad in such a way that its longitudinal axis is parallel to the wall or barrier to be tested. Manually roll test cylinder from one inside edge of pad surface to within 1 in. (25 mm) of the opposite inside edge 100 times, being careful

not to add additional downward force other than the weight of the cylinder to the pad. Remove test cylinder. Allow a minimum of 1 h before proceeding with additional testing.

(c) With the test surface on which the pad is secured horizontal, place the test cylinder on the center of the changing pad with its axis parallel to the tilt axis of the test surface.

(d) Incline the platform to +15° at a rate of 1°/s and allow it to remain in this position for 1 min.

(e) Move the tilting test surface through its tilting axis to a -15° position at a rate of 1°/s and allow it to remain in this position for a period of 1 min.

(f) Return test surface to horizontal level. Repeat three times with a minimum 5 min rest in between.

7.4.6 Changing table accessories:

7.4.6.1 Test procedure for changing table accessory:

(1) Perform the test with the changing table accessory on the product in the manufacturer’s recommended use position.

(a) Secure the product to a platform that can be inclined 15° to the horizontal, with the changing surface oriented so that the long axis of the trough of the changing pad is parallel to the tilting axis of the platform.

(2) Place the changing table accessory on the product in the manufacturer’s recommended use position. Secure the changing table accessory to product per the manufacturer’s instructions.

(3) With the platform on which the product is secured horizontal, place the test cylinder on the center of the changing pad with its axis parallel to the tilt axis of the platform.

(4) Incline the platform to +15° at a rate of 1°/s and allow it to remain in this position for 1 min.

(5) Move the tilting platform through its tilting axis to a -15° position at a rate of 1°/s and allow it to remain in this position for a period of 1 min.

(6) Return platform to horizontal level. Repeat three times with a minimum 5 min rest in between.

7.5 Entrapment in Enclosed Openings:

7.5.1 Assemble the changing table in accordance with the manufacturer’s instructions.

7.5.2 Place the torso probe shown in Fig. 6 into any opening in the structure of the changing table, tapered end first and with the probe in its most adverse orientation (major axis of base of probe parallel to major axis of opening). Attempt to pass the probe through the opening. If the probe can pass freely through the opening, attempt to pass the 9-in. (229-mm) diameter large head probe shown in Fig. 7 through the opening.

7.6 Entrapment in Shelves:

7.6.1 Secure the product to the test surface to prevent upward motion during the test.

7.6.2 Conduct the following test in all of the manufacturer’s intended use positions.

7.6.3 Place the small head probe shown in Fig. 8 against the underside of any shelf above 4.3 in. (109 mm) from the floor. While maintaining the base of the probe horizontal, rotate it to its most adverse orientation (that is, major axis of probe parallel to the major axis of the component) and gradually apply a vertically upward force of 25 lbf (111 N) within a period of 5 s. Maintain the force for an additional 10 s.

7.7 Self-folding Steps with Single Action Release Mechanism—With the self-folding steps in their closed position, gradually apply a 10-lbf (45-N) force to the locking or latching mechanism in the direction tending to release it.

7.8 Restraint System Tests:

7.8.1 Secure the product in its recommended use position so that it cannot move in the direction of the force being applied.

7.8.2 Secure a CAMI Infant Dummy, Mark II on the changing surface in accordance with the manufacturer’s instructions.

7.8.3 Adjust the restraint, using the webbing tension pull device shown in Fig. 9, so that a force of 2 lbf (9 N) applied to the restraint will provide a ¼ in. (6 mm) space between the restraint and the CAMI Dummy.

7.8.4 Perform the following tests without readjusting the restraint system.

7.8.4.1 Apply a pull force of 30 lbf (133 N) on the restraint strap in the direction an occupant would roll sideways off the changing surface at a 45° angle from the horizontal changing surface (see Fig. 10). Gradually apply the force within 5 s and maintain for an additional 10 s.

7.8.4.2 Release the restraint strap.

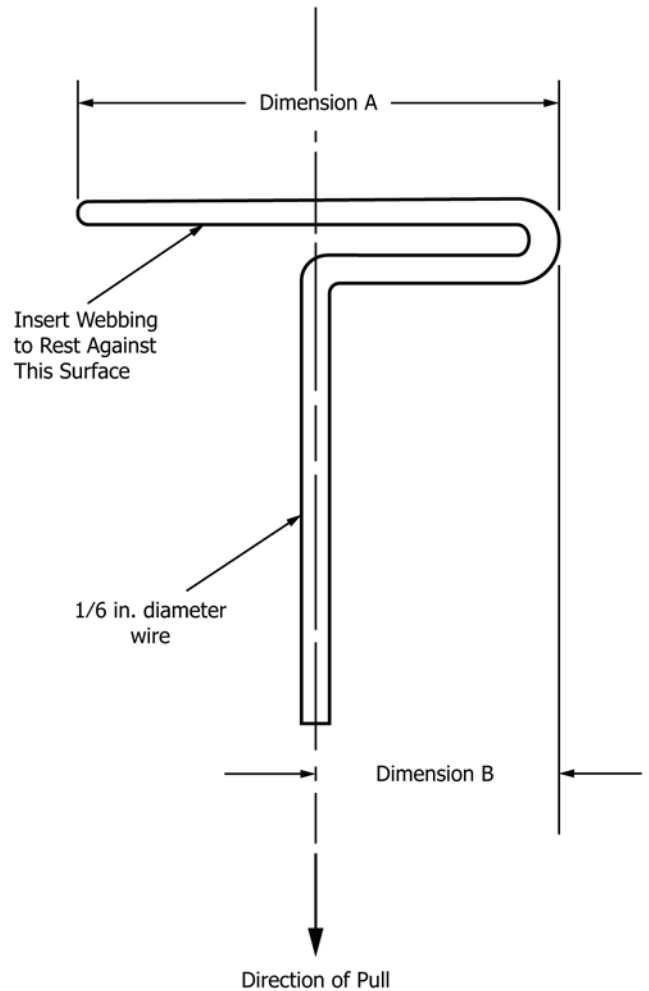


FIG. 9 Webbing Tension Pull Device

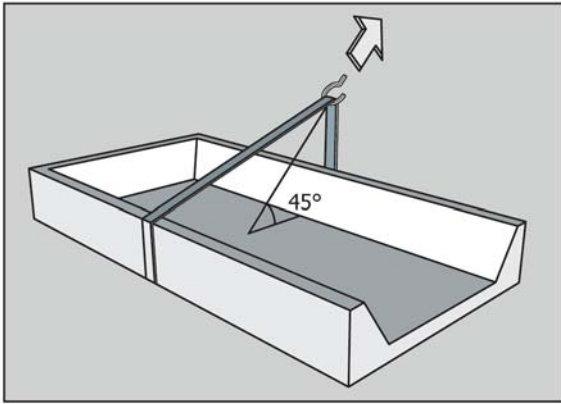


FIG. 10 Restraint Strap Directional Pull Force

7.8.4.3 Repeat this test in the opposite direction an occupant would roll sideways off of the changing surface.

7.8.4.4 Apply a force of 30 lbf (133 N) in a direction that is 45° from the horizontal changing surface towards the head of the changing pad. Gradually apply the force within 5 s and maintain for an additional 10 s.

7.8.4.5 Release the restraint strap.

7.8.4.6 Apply a force of 30 lbf (133 N) in a direction that is 45° from the horizontal changing surface towards the foot of the changing pad. Gradually apply the force within 5 s and maintain for an additional 10 s.

7.8.4.7 Release the restraint strap.

7.8.4.8 Apply a force of 30 lbf (133 N) in a direction that is vertically straight up from the changing pad. Gradually apply the force within 5 s and maintain for an additional 10 s.

8. Permanency of Labels and Warnings

8.1 A paper label (excluding labels attached by a seam) shall be considered permanent if, during an attempt to remove it without the aid of tools or solvents, it cannot be removed, it tears into pieces upon removal, or such action damages the surface to which it is attached.

8.2 A non-paper label (excluding labels attached by a seam) shall be considered permanent if, during an attempt to remove it without the aid of tools or solvents, it cannot be removed or such action damages the surface to which it is attached.

8.3 A warning label attached by a seam shall be considered permanent if it does not detach when subjected to a 15-lbf (67-N) pull force applied in any direction using a clamp with 3/4-in. (19-mm) diameter clamping surfaces.

8.4 *Adhesion Test for Warnings Applied Directly Onto the Surface of the Product:*

8.4.1 Apply the tape test defined in Test Method B—Cross-Cut Tape Test of Test Methods D3359, eliminating parallel cuts.

8.4.2 Perform this test once in each different location where warnings are applied.

8.4.3 The warning statements will be considered permanent if the printing in the area tested is still legible and attached after being subjected to this test.

8.5 A non-paper label, during an attempt to remove it without the aid of tools or solvents, shall not be removed or shall not fit entirely within the small parts cylinder defined in 16 CFR 1501 if it can be removed.

9. Marking and Labeling

9.1 Each product and its retail package shall be marked or labeled clearly and legibly to indicate the following:

9.1.1 The name, place of business (city, state, and mailing address, including zip code), and telephone number of the manufacturer, distributor, or seller.

9.1.2 A code mark or other means that identifies the date (month and year as a minimum) of manufacture.

NOTE 6—Changing table accessories sold with full size cribs, non-full-size cribs, and play yards are exempt from the labeling requirements of 9.1.1 and 9.1.2 as labeling requirements for these accessories are included in Consumer Safety Specifications F1169 and F406 respectively.

9.1.3 The retail package must indicate the manufacturer's recommended maximum weight of the occupant for which the product is intended.

9.2 The marking and labeling on the product shall be permanent.

9.3 Any upholstery label required by law shall not be used to meet the requirements in 9.1.

9.4 Warning Design for Product:

9.4.1 The warnings shall be easy to read and understand and be in the English language at a minimum.

9.4.2 Any marking or labeling provided in addition to those required by this section shall not contradict or confuse the meaning of the required information, or be otherwise misleading to the consumer.

9.4.3 The warnings shall be conspicuous and permanent.

9.4.4 The warnings shall conform to ANSI Z535.4 – 2011, American National Standard for Product Safety Signs and Labels, sections 6.1 – 6.4, 7.2 – 7.6.3 and 8.1, with the following changes.

9.4.4.1 In sections 6.2.3, 7.3, 7.5, and 8.1.2, replace “should” with “shall.”

9.4.4.2 In section 7.6.3, replace “should (when feasible)” with “shall.”

9.4.4.3 Strike the word “safety” when used immediately before a color (for example, replace “safety white” with “white”).

9.4.5 The safety alert symbol “▲” and the signal word “WARNING” shall be at least 0.2 in. (5 mm) high. The remainder of the text shall be in characters whose upper case shall be at least 0.1 in. (2.5 mm) high.

NOTE 7—For improved warning readability, typefaces with large height-to-width ratios, which are commonly identified as “condensed”, or “compressed”, or similar should be avoided.

9.4.6 Message Panel Text Layout:

9.4.6.1 The text shall be left aligned, ragged right for all but one-line text messages, which can be left aligned or centered.

NOTE 8—Left aligned means that the text is aligned along the left margin, and, in case of multiple columns of text, along the left side of each individual column. Please see Fig. X1.1 in Appendix X1 for examples of left aligned text.

9.4.6.2 The text in each column should be arranged in list format, with precautionary (hazard avoidance) statements preceded by bullet points. Multiple precautionary statements shall be separated by bullet points if paragraph formatting is used.

9.4.7 Example warning labels for various changing products and in the format described in this section are shown in Figs. 11-15.

9.5 *Warning Statements*—Each product shall have warning statements to address the following at a minimum:

NOTE 9—Address means that verbiage other than what is shown can be used as long as the meaning is the same or information that is product-specific is presented.

NOTE 10—For 9.5.1 – 9.5.3, the words in the brackets provide wording options. The manufacturer should select the most appropriate term for the product or may substitute another term that is consistent with the product’s marketing and instructions.

9.5.1 Warning addressing fall hazards

Fall Hazard Children have suffered serious injuries after falling from changing [tables/pads/areas]. Falls can happen quickly.

- **STAY** within arms reach.

9.5.2 Products that are intended for the consumer to physically attach to the support surface or frame shall include an additional warning statement under Fall Hazard:

- **ALWAYS** secure this [unit/pad] to the support [surface/frame] by (manufacturer’s instructions for securing the changing unit/pad). See instructions.

9.5.3 Changing table accessories and contoured changing pads shall include the following additional warning statements:

Suffocation Hazard Babies have suffocated while sleeping [in/on] changing [tables/pads/areas]; changing [table/pad/area] is not designed for safe sleep.

- **NEVER** allow baby to sleep [in/on] changing [table/pad/area].

9.5.4 For changing products sold separately from a changing table and designed to be attached to furniture, the warning in either 9.5.4.2 or 9.5.4.3 shall be addressed and be visible on the product during assembly. The warning shall also either be visible on the product through the retail package or shall be located on the retail package.

9.5.4.1 The warning on the product shall comply with the format and text requirements in 9.4 and 9.5 and shall either be displayed as a separate warning which includes the safety alert symbol and signal word or shown at the bottom of the combined warning.

9.5.4.2 Identify specific furniture to attach the changing products to.

9.5.4.3 That the support surface used should be level, stable, and structurally sound with minimum surface dimensions of “X” by “Y”.

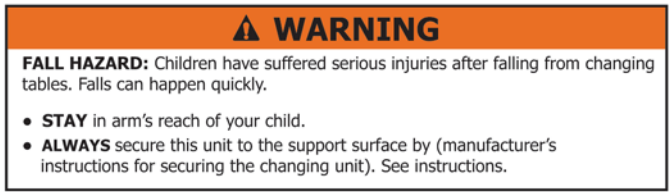


FIG. 12 Sample Label – e.g. Add-on Changing Unit Intended to be Attached to Support Surface



FIG. 13 Sample Label – e.g. Contoured Changing Pad

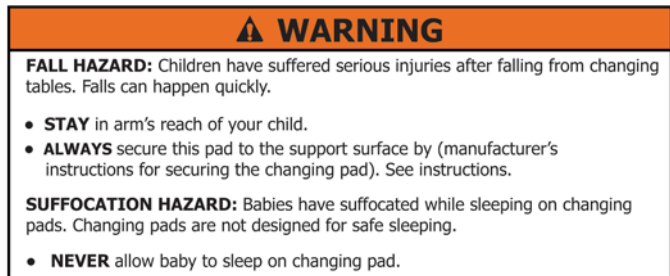


FIG. 14 Sample Label – e.g. Contoured Changing Pad Intended to be Attached to Support Surface

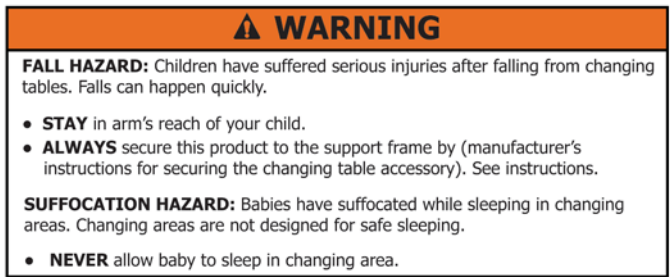


FIG. 15 Sample Label – e.g. Changing Table Accessory

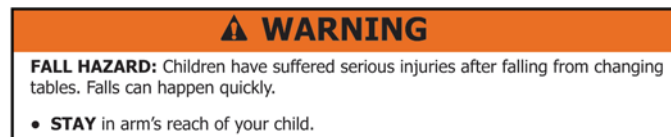


FIG. 11 Sample Label – e.g. Changing Table

10. Instructional Literature

10.1 Instructions shall be provided with the product and shall be easy to read and understand. These instructions shall include information regarding assembly, maintenance, cleaning, and use, where applicable.

10.2 The instructions shall include all warnings specified in 9.5.

10.3 The instructions shall address the following additional warnings.

10.3.1 Read all instructions before use of the [specify product].

10.3.2 If instructions are not attached to or printed on the product, include: Keep instructions for future use.

10.3.3 Do not use [specify product] if it is damaged or broken.

10.3.4 If a means of attachment to the contoured changing pad or add-on changing unit is provided, the instructional literature shall provide instructions on how to secure the contoured changing pad or add-on changing unit to the support surface.

10.3.5 If a changing pad is required to meet this consumer safety specification, include: This product is not intended to be used as a changing table without (manufacturer must insert requirement). Use of the product without this may result in death or serious injury to your child from falling. Follow all instructions on attaching and using the (manufacturer must insert requirement).

10.3.6 If a restraint system is supplied, the instructions shall advise how the restraint system should be used.

10.3.7 The instructions must indicate the manufacturer’s recommended maximum weight of the occupant for which the changing table, add-on changing unit, or contoured changing pad is intended.

10.3.8 Changing tables or add-on changing units sold without a pad must include information on length, width, and maximum thickness of the pad to be used.

10.4 The warnings in the instructions shall meet the requirements specified in 9.4.4, 9.4.5, and 9.4.6 with the following two exceptions: (1) the background of the signal word panel need not be in color and (2) clause 6.4 on ANSI Z535.4 need not be applied.

NOTE 11—For additional guidance on the design of warnings for instructional literature, please refer to ANSI Z535.6 American National Standard: Product Safety Information in Product Manuals, Instructions, and Other Collateral Materials.

11. Keywords

11.1 baby diaper changers; changing pads; changing tables; diaper changing table; domestic or home changing tables; tables

APPENDIX

(Nonmandatory Information)

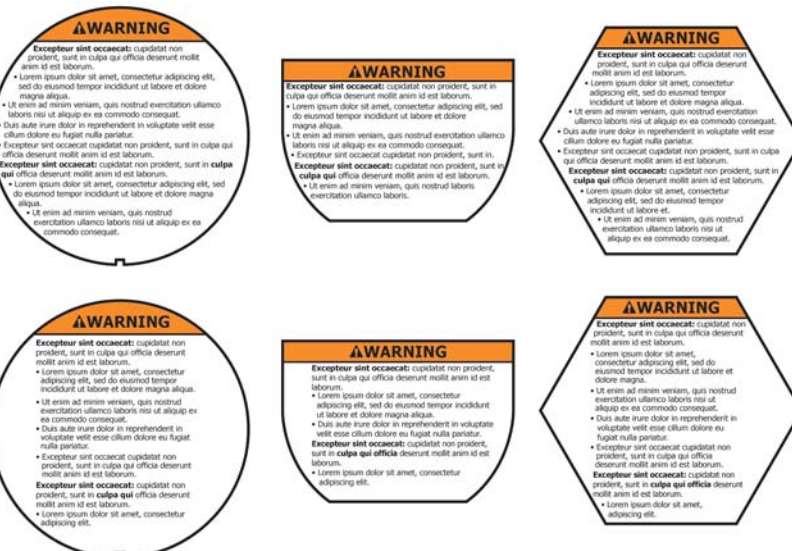
X1. RATIONALE

X1.1 Subsection 6.4:

X1.1.1 The standard for changing tables requires that flat changing surfaces have barriers on all sides for the changing surface. Incidents show that consumers sometimes briefly release or lose control of the child on the table and falls can be fatal. The subcommittee concluded that an infant on a flat changing surface is more mobile than an infant on a contoured

changing surface. The opportunity for rolling and for sliding is greater. Therefore, four sided barriers are necessary. Fig. X1.1

X1.1.2 On a contoured changing surface, the standard requires barriers on two opposing sides. On a contoured pad, the orientation of the infant is defined, and the infant’s mobility is limited, so the subcommittee concluded two barriers were sufficient.



NOTE 1—The text shown for these warnings is filler text, known as Lorem Ipsum, commonly used to demonstrate graphic elements.

FIG. X1.1 Example of Left Aligned Text

X1.2 Subsection 7.8, Restraint System Tests:

X1.2.1 30 lbf is the approximate forward push force of a 95th percentile 3 year old. The 5 directions of the force

applications are intended to simulate the forces that could be applied on the straps when a child attempts to escape the restraint system.

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