



Designation: **F1967–13 F1967 – 18**

Standard Consumer Safety Specification for Infant Bath Seats¹

This standard is issued under the fixed designation F1967; 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 is intended to address certain incidents associated with the use of bath seats, bath rings, and other similar devices.

The U.S. Consumer Product Safety Commission (CPSC) identified drowning incidents which generally involved infants either tipping over, climbing out of, or sliding through the product after being left unattended by their caregiver.

This specification does not address incidents in which bath seats are unreasonably misused, are used in a careless manner that disregards the warnings and instructions that are provided with each product, or those instances where the caregiver leaves the infant unattended in the product.

This consumer safety specification is written within the current state-of-the-art product technology. It is intended that this specification will be updated whenever substantive information becomes available and known to ASTM which necessitates additional requirements or justifies the revision of existing requirements.

1. Scope

1.1 This consumer safety specification establishes performance requirements, test methods, and labeling requirements to promote the safe use of infant bath seats. Products commonly referred to as bath rings also are included in the scope of this specification. Traditional infant bath tubs that are used to bathe an infant are not within the scope of this standard.

1.2 This consumer safety specification is intended to reduce the risk of death and minimize injury to infants resulting from use and reasonably foreseeable abuse of infant bath seats.

1.3 No infant bath seat 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.

1.4 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.

1.5 The following precautionary caveat pertains only to the test methods portion, Section 7, of this consumer safety specification: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *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](#)

[F404 Consumer Safety Specification for High Chairs](#)

¹ This consumer safety specification is under the jurisdiction of ASTM Committee F15 on Consumer Products and is the direct responsibility of Subcommittee F15.20 on Bath Seats.

Current edition approved Aug. 1, 2013 Dec. 15, 2018. Published August 2013 December 2018. Originally approved in 1999. Last previous edition approved in 2011 2013 as F1967–11a F1967 – 13. DOI: 10.1520/F1967-13-10.1520/F1967-18.

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.

[F963 Consumer Safety Specification for Toy Safety](#)

[F977 Consumer Safety Specification for Infant Walkers](#)

2.2 *Federal Regulations:*³

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

[16 CFR 1500 Federal Hazardous Substances Act Regulations, including sections:](#)

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

[16 CFR 1500.49 Technical Requirements for Determining a Sharp Metal or Glass Edge in Toys and Other Articles Intended for Use by Children Under 8 Years of Age](#)

~~[16 CFR 1500.50 Test Methods for Simulating Use and Abuse of Toys and Other Articles Intended for Use by Children](#)~~

~~[16 CFR 1500.51 Test Methods for Simulating Use and Abuse of Toys and Other Articles Intended for Use by Children 18 Months of Age or Less](#)~~

[16 CFR 1501 Method for Identifying Toys and Other Articles Intended for Use by Children Under 3 Years of Age Which Present Choking, Aspiration, or Ingestion Hazards Because of Small Parts](#)

[Consumer Product Safety Improvement Act](#)

2.3 *ANSI Standards:*⁴

[ANSI Z535.1 Safety Colors](#)

[ANSI Z535.4 Product Safety Signs and Labels](#)

[ANSI Z535.6 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 *attachment components, n*—components of the bath seat that provide the means of attachment to the adult bath tub, including, but not limited to, clamps, arms, suction cups, and pads.

3.1.1 *bath seat, n*—an article that is used in a bath tub, sink, or similar bathing enclosure and that provides support, at a minimum, to the front and back of a seated infant during bathing by a caregiver. This does not include products that are designed or intended to retain water for bathing.

3.1.2 *conspicuous, adj*—visible, when the product is in all manufacturer's recommended use positions and an occupant is sitting in the product, to an adult caregiver near the product at any one position around the product but not necessarily visible from all positions.

3.1.3 *double action release system, n*—a mechanism requiring either two consecutive actions, the first of which must be maintained while the second is carried out, or two separate and independent simultaneous actions to fully release.

3.1.4 *installation components, n*—components of the infant bath seat that provide the means of installation to the adult bath tub, including, but not limited to, clamps, arms, suction cups, and pads.

3.1.5 *locking ~~or~~ latching mechanism, n*—method of preventing a bath seat from folding or collapsing during use.

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

3.1.7 *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 of fabric.

3.1.8 *occupant, n*—~~infant that individual who~~ is in an infant bath seat in ~~one of the~~ any manufacturer's recommended use ~~positions~~ position(s).

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

3.1.10 *principal display panel, n*—that part of the product's package that is most likely to be displayed, presented, shown or examined under normal or customary conditions of display for retail sale.

3.1.11 *protective component, n*—any component used for protection from sharp edges, points, or entrapment of fingers or toes.

3.1.11.1 *Discussion—*

Examples of protective components include caps, sleeves, and plugs.

3.1.12 *stability, n*—ability of a bath seat to remain upright in all of the manufacturer's recommended use positions.

3.1.13 *static load, n*—vertically downward load applied by weights or other means.

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

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

4. Calibration and Standardization

- 4.1 Unless otherwise noted, the bath seat shall be completely assembled in accordance with the manufacturer's instructions.
- 4.2 The product to be tested shall be in a room with an ambient temperature of $73 \pm 9^\circ\text{F}$ ($23 \pm 5^\circ\text{C}$) for at least 1 h prior to testing. Testing then shall be conducted within this temperature range.
- 4.3 All testing required by this specification shall be conducted on the same unit.

5. General Requirements

5.1 *Hazardous Sharp Edges or Points*—There shall be no hazardous sharp points or edges as defined in 16 CFR 1500.48 and 16 CFR 1500.49 before or after the product has been tested to this consumer safety specification.

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

5.3 *Lead in Paints*—All decorated surfaces of paint and surface coatings on the product shall comply with the requirements of 16 CFR 1303.

5.4 *Latching, Locking, Latching and Other Locking Mechanisms*:

5.4.1 ~~Any unit~~Products that fold shall have a latching or locking device mechanism or other provision in the design that will prevent the unit from unintentionally folding when properly placed in the means to prevent collapse of the product when it is installed in any manufacturer's recommended use position(s).

5.4.2 During and upon completion of the test in accordance with 7.1.1, the unit product shall remain in the manufacturer's recommended use position, and the latching or locking mechanism shall remain engaged and operative after testing operative.

5.4.3 ~~For all single action locking/latching mechanisms, the mechanism shall not release with a minimum force of 10 lbf (45 N) when tested~~Products designed with a latching and locking mechanism shall comply with either 5.4.3.1 in accordance with or 7.1.25.4.3.2.

5.4.3.1 Product shall be designed with a single action release mechanism that shall not release when tested in accordance with 7.1.2.

5.4.3.2 Product shall be designed with a double action release system.

5.4.4 ~~For all double action locking/latching mechanisms, there is no force requirement when tested in accordance with 7.1.2.~~

5.4.4 Latching, locking, Latching and other mechanisms that slide, turn, twist, are pushed or pulled, or can otherwise be adjusted during the installation or use of the product locking mechanisms shall also comply with all requirements in 5.4 after cycling has been conducted in accordance with 7.1.3.

5.5 *Scissoring, Shearing, and Pinching*—The unit product, when in the manufacturer's recommended use position(s), shall be designed and constructed to prevent injury to the occupant from any scissoring, shearing, or pinching when members or components rotate about a common axis or fastening point, slide, pivot, fold or otherwise move relative to one another. Scissoring, shearing, or pinching that may cause injury exists when the edges of the rigid parts admit a probe greater than 0.210 in. (5.33 mm) and less than 0.375 in. (9.53 mm) in 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) 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. 1 for examples). The product shall be evaluated in all manufacturer's recommended use positions.

5.7 *Protective Components*—If a child can grasp any 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 or if there is at least a 0.040-in. (1.00-mm) 0.04 in. (1.0 mm) gap between the component and its adjacent parent component when the product is in its manufacturer's recommended use position(s), component, such component shall not be removed when tested in accordance with 7.2.

5.8 *Requirements for Toys*—Toy accessories attached to, removable from, or sold with infant bath seats, as well as their means of attachment, must meet shall comply with the applicable requirements of Standard Consumer Safety Specification F963.

5.9 *Labeling*:

5.9.1 Warning labels, whether paper or nonpaper, shall be permanent when tested in accordance with 7.3.1 – 7.3.4.

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 in accordance with 7.3.1 and 7.3.5.

5.9.3 Nonpaper labels shall not liberate small parts when tested in accordance with 7.3.6.

5.10 Infant bath seats must comply with the applicable requirements of the Consumer Product Safety Improvement Act.

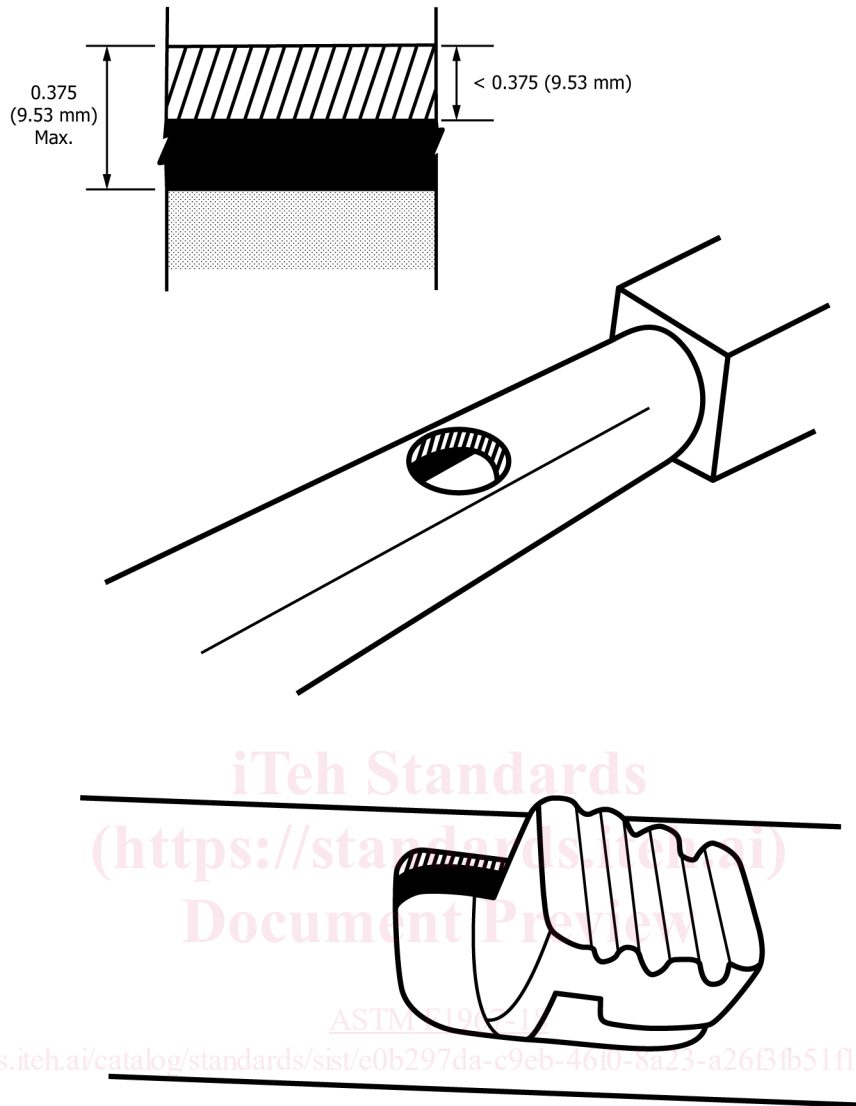


FIG. 1 Opening Examples

6. Performance Requirements

6.1 *Stability—Stability:* The geometry and construction of the product shall not allow for any parts of the product to become separated from it, shall not sustain permanent damage, and shall not allow the product to tip over after being tested in accordance with 7.4. In addition, if any attachment point disengages from (is no longer in contact with) the test platform and then fails to return to its manufacturer’s intended use position after being tested in accordance with 7.4, it fails the requirement. This test shall be conducted after the Mechanisms Durability test in 7.1.3. If any time during the application of force, the seat is no longer in the initial “intended use position” and is tilted at an angle of 12° or more from its initial starting position, it shall be considered a failure:

6.1.1 The stability test shall be conducted after the Mechanisms Durability test in 7.1.3.

NOTE 1—If the bath seat would continue to tip over under the application of force, but it is prevented from doing so by the test platform (bath tub) side walls, it shall be considered a tip over.

6.1.2 During and after testing in accordance with 7.4, the product shall comply with the following:

6.1.2.1 No parts of the product shall become separated from it.

6.1.2.2 The product shall not sustain permanent damage.

6.1.2.3 The product shall not tip over. If the product would continue to tip over under the application of force, but it is prevented from doing so by the test platform interior side walls, it shall be considered a tip over.

6.1.2.4 No attachment point shall disengage from (is no longer in contact with) the test platform and then fail to return to its manufacturer’s recommended use position.

6.1.2.5 At all time during the application of force, the seat shall remain in its initial position and shall not be tilted at an angle of 12° or more from its initial position.

6.2 Restraint System:

6.2.1 Bath seats, when in the manufacturer's recommended use position(s), must provide a passive crotch restraint and comply with 6.2.1.1. The bath seat shall not include any additional restraint system which requires action on the part of the caregiver to secure the restraint.

6.2.1.1 A passive crotch restraint shall be assembled as part of the bath seat before shipment from the manufacturer or shall be designed such that the bath seat cannot be used without the passive crotch restraint in place. The passive crotch restraint shall be permanently attached to the bath seat.

6.3 Static Load—The product shall not break, become permanently deformed or damaged, or fail to comply with any of the other requirements of this specification when tested in accordance with 7.5.

6.4 Specific Requirements for Suction Cups—Bath seats Products that utilize individual suction cups as a method of attachment to the bathing surface shall comply with the following requirements:

6.4.1 Each suction cup shall remain attached to the bath seat product and shall not become damaged or broken after testing in accordance with 7.6.1.

6.4.2 The bath seat product shall attach and remain attached to each test surface and shall not become damaged or broken after testing in accordance with 7.6.2.

6.5 Leg Openings Openings:

6.5.1 All openings on the sides of the product through which a seated occupant can slide or otherwise insert any extremity shall not permit the passage of the Bath Seat Torso Test Probe when tested in accordance with 7.7.1.

6.5.2 When these same openings are tested in accordance with 7.7.2, the ~~1.0 in. (25 mm)~~ 1.0 in. (25 mm) perimeter of the Bath Seat Shoulder Test Probe at the shoulder breadth end shall not be permitted to contact the seating surface of the product.

6.6 Attachment ~~Installation~~ Components—~~Before~~ Prior to shipment, all ~~attachment components~~ components required for the proper installation and use of the product according to the manufacturer's instructions in all manufacturer's recommended use positions shall be permanently attached to the bath seat. Attachment components shall be considered permanent if they product. Permanently attached shall mean that such components cannot be removed from the product without the use of a tool.

7. Test Methods

7.1 Latching and Locking Mechanism—Mechanism Tests:

7.1.1 Resistance to Folding Collapse:

7.1.1.1 ~~Erect the bath seat~~ Install the product with the latching and locking mechanism(s) engaged in one of the manufacturer's recommended use position(s) ~~on the test surface specified in positions on Test Surface #2 or Test Surface #3, or both, depending on the manufacturer's installation instructions (refer to Stability Test Method for test surface specification).~~ 7.4.3. Secure the product to the test surface(s) so that ~~the normal folding~~ any collapsing motion is not impeded.

7.1.1.2 ~~Apply a force of~~ Gradually apply a 45 lbf (200 N) force to the product in the direction normally associated with ~~folding~~ collapsing the bath seat product.

7.1.1.3 Repeat this procedure four ~~more~~ additional times within a 2-min period.

7.1.1.4 Submerge the product in enough clear water to fully cover the ~~latching/locking~~ latching and locking mechanism. Water shall be at an initial temperature of 100 to 105°F (37.8 to 40.6°C).

7.1.1.5 Repeat 7.1.1.1 through 7.1.1.3 ~~the testing prescribed above~~ while maintaining the product in ~~7.1.1.1—7.1.1.3~~ its submerged position.

7.1.1.6 Repeat the testing in both the dry and the submerged conditions for ~~each additional~~ all other manufacturer's recommended use ~~position~~ positions.

7.1.2 Single Action Release Mechanism Activation Test:

7.1.2.1 Install the product in one of the manufacturer's recommended use positions on Test Surface #2 or Test Surface #3, or both (refer to Stability Test Method for test surface specification). Secure the product so that any collapsing motion is not impeded.

7.1.2.2 Products With Single Action Release Mechanism—With the product in each manufacturer's recommended use position, ~~gradually apply a 10-lbf (45-N)~~ Gradually apply a 10 lbf (45 N) force to the locking ~~or~~ and latching mechanism in the direction tending to release it.

7.1.2.3 Products With Double Action Release Mechanism—Each ~~double~~ Repeat 7.1.2.1 action locking/latching mechanism shall require two distinct and separate ~~and~~ 7.1.2.2 actions for release of the mechanism for all other manufacturer's recommended use positions.

7.1.3 Mechanisms Durability—Latching and Locking Mechanism Durability Test—Latching, locking, and other mechanisms that slide, turn, twist, are pushed or pulled, or can otherwise be adjusted during the installation or use of the product ~~All latching and locking mechanism(s) shall be cycled independently through their normal full range motion operation a total of 2000 cycles. Each cycle shall consist of opening and closing the mechanism(s) and erecting/folding the product. Cycling shall be conducted at a rate of 12 cycles per minute on a continuous basis.~~

7.2 ~~Protective Components—Removal of Protective Components Test:~~

7.2.1 ~~If the torque and tension tests are to be conducted on the product, Prior to conducting the following tests, first completely submerge the testable components for 20 min in clear water that is at an initial temperature of 100 to 105°F (37.8 to 40.6°C). Conduct the torque and tension following tests within 10 min after removal from the water.~~

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

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

7.2.4 ~~Torque Test for Graspable Components—Test—~~

7.2.2.1 ~~Using any convenient method to hold the parent component in place, grasp the component to be tested and apply a torque evenly over a period of 5 s in a clockwise direction until either a rotation of 180° is attained or a torque value of 4 lbf-in. (0.4 N-m) has been reached. Gradually apply a torque of 4 lbf-in. (0.4 N-m) over a period of 5 s in a clockwise direction until a rotation of 180° from the original position has been attained or 4 lbf-in. has been exceeded. 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.~~

7.2.2.2 ~~Maintain the torque value or the 180° rotation for an additional 10 s and then allow the component to return to its original position.~~

7.2.2.3 ~~Repeat this test using a torque in the counter-clockwise direction.~~

7.2.5 ~~Tension Test for Graspable Components—Test: The same component which has undergone the torque test also shall undergo the following tension test immediately following the torque test:~~

7.2.5.1 ~~Attach a force gauge to the protective component by means of any suitable device. For components that cannot reasonably be expected to be grasped between thumb and forefinger, or teeth, on their outer diameter but have a gap of 0.04 in. (1.0 mm) or more between the rear surface of the component and the structural member of the product to which they are attached, a clamp such as shown in Fig. 2 may be a suitable device.~~

7.2.5.2 ~~Be sure that the attachment device does not compress or expand the component hindering any possible removal.~~

7.2.5.3 ~~Using any convenient method to hold the parent component in place, grasp the component to be tested and apply a tension force of Gradually apply a 15 lbf (67 N) evenly force over a period of 5 s in the direction that would normally be associated with the removal of the component. The device used to grasp the component should not compress or expand the component being tested so that it hinders any possible removal protective component. Hold for an additional 10 s.~~

7.2.3.2 ~~Maintain this force for an additional 10 s.~~

7.3 ~~Permanence of Labels and Warnings:~~

7.3.1 ~~To determine the permanence of a label or printing applied to the surface of the product, first completely submerge the label or printed area for 20 min in clear water that is at an initial temperature of 100 to 105°F (37.8 to 40.6°C). Drain off the excess water and let the label or printed area air dry for 24 h at 73 ± 9°F (23 ± 5°C), 20 to 70 % RH, prior to conducting any permanency tests.~~

15 lb Max TENSION

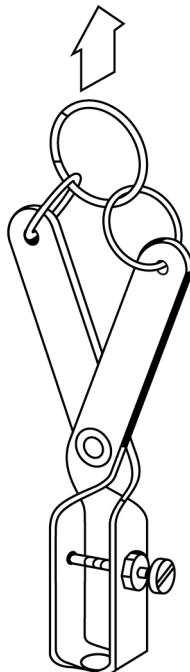


FIG. 2 Tension Test Adapter/Clamp

7.3.2 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.

7.3.3 A nonpaper 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.

7.3.4 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 3/4-in. diameter clamp surface.

7.3.5 Adhesion test for warnings applied directly onto the surface of the product.

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

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

7.3.5.3 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.

7.3.6 A nonpaper 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.

7.4 ~~Stability~~: Stability Test:

7.4.1 ~~Surface Preparation and Product Installation~~: Test Equipment:

7.4.1.1 Test Platform—Refer to Fig. 3, Fig. 4, and Fig. 5 for the specifications of an adult bath tub to be used as the test platform. All surfaces of this tub shall be smooth porcelain enamel. The side ledge of the tub shall be of uniform thickness of 4 ± 0.5 in. (10.2 ± 0.6 cm) for at least 24 in. (60.0 cm) along the length of the tub.⁵

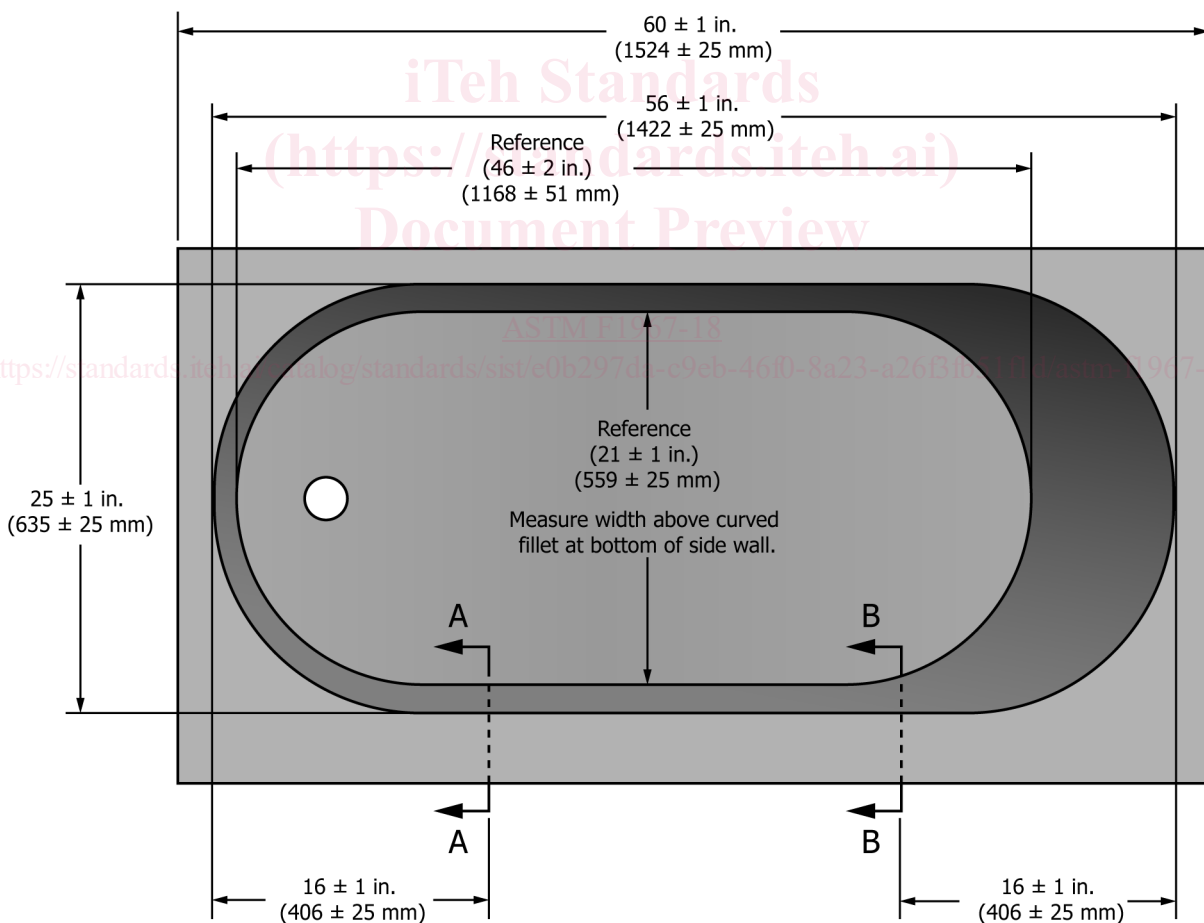


FIG. 3 Test Platform Top View

⁵ The At the time of original publication of this standard, the sole source of supply of the apparatus known to the committee at this time is American Standard, Princeton model, from American Standard, was American Standard, 1 Centennial Plaza, Piscataway, NJ 08855-6820. If you are aware of alternative suppliers, please provide this information to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,¹ which you may attend.

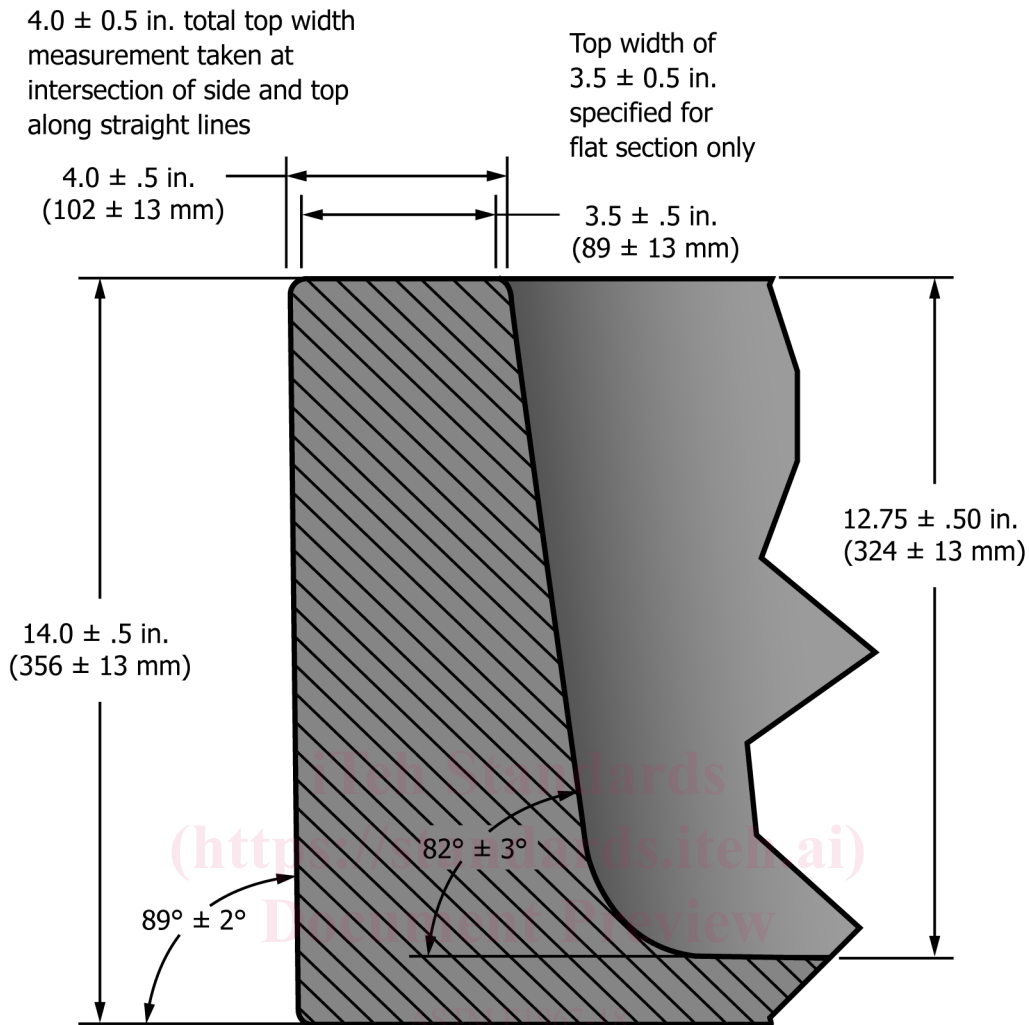


FIG. 4 Test Platform A-A Sectional View

<https://standards.iteh.ai/catalog/standards/astm/a23-a263fb51fd/astm-f1967-18>

7.4.1.2 Test Surface Usage—The test surface(s) described below to be used for required tests shall be determined by considering all of the attachment configurations and contact locations a given product utilizes to provide support and stability for the product in or on an adult bath tub. The stability test shall be conducted using all relevant surfaces, and multiple surfaces may be used either separately or simultaneously for testing, depending upon the manufacturer’s recommended installation instructions and use position(s).

(1) **Test Surface #1**—Any area on the bottom surface of the test platform where safety tread strips are applied as described below.

(2) **Test Surface #2**—Any area on the bottom surface of the test platform where safety tread strips are not applied.

(3) **Test Surface #3**—Any area on the side(s) of the test platform (for example, inside surface, outside surface, and top ledge), where safety tread strips are not applied.

NOTE 1—One test platform may be used for all test surfaces if sufficient space allows for the use of all coverage areas as specified below.

7.4.1.3 Coverage Area—Any area where the product can be installed per the manufacturer’s instructions on Test Surfaces #1, #2 and #3, and that is at least 1 in. (25 mm) larger in all directions than the perimeter outlined by any part of the product that is designed to contact any of these surfaces.

NOTE 2—Each test surface requires an adequate coverage area.

7.4.1.4 Safety Tread Strips—Commercially available adhesive backed safety tread strips for bath tub use that are rectangular, approximately 0.75 in. (19 mm) wide by 7 in. (180 mm) or greater in length. The corners may be filleted with a radius that does not exceed ½ the width.

7.4.1.5 Baby Wash Test Solution—Prepare the test surface as follows: Any of the following products diluted in a 1 to 25 ratio of distilled water, and contained in a spray bottle:

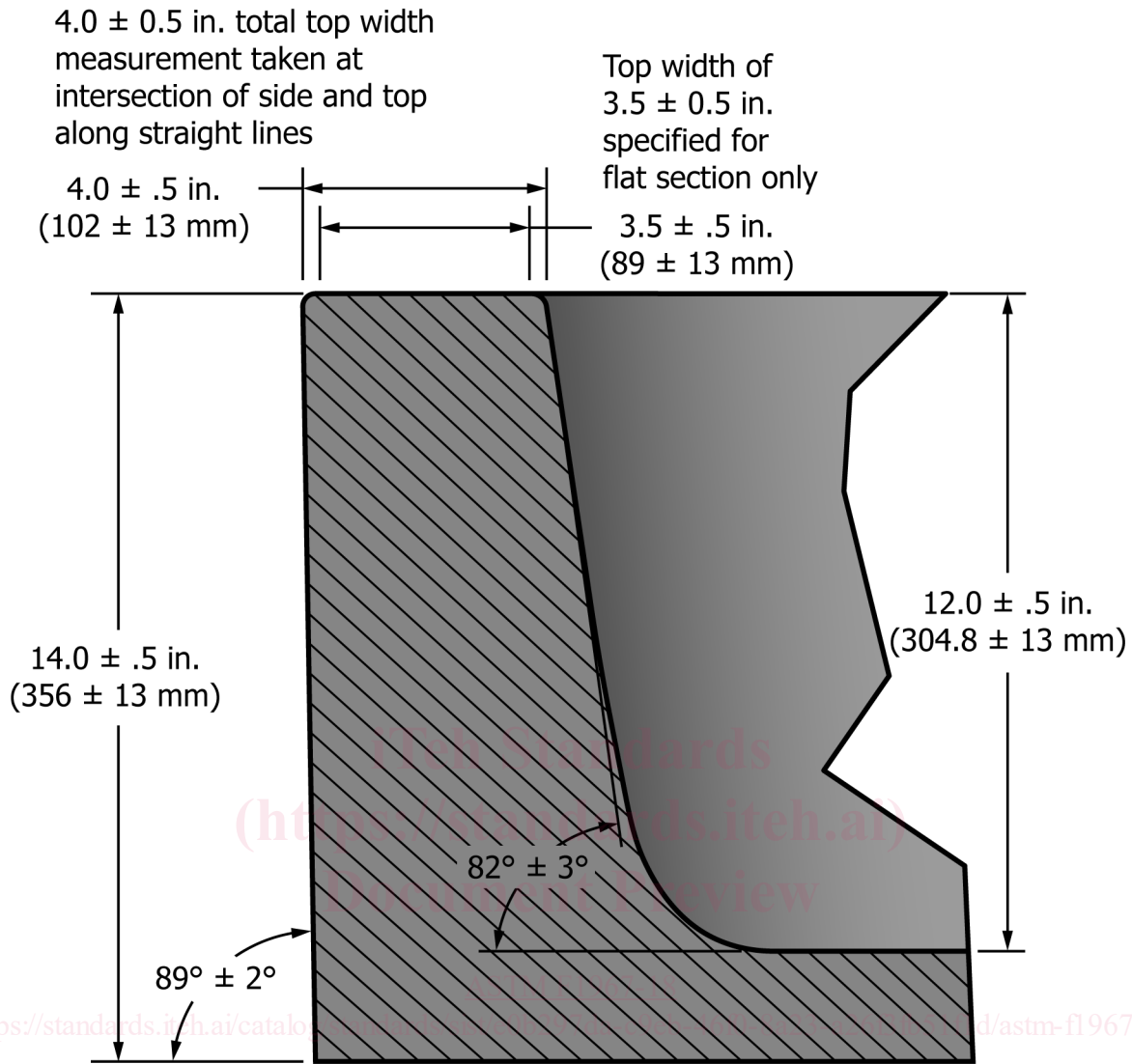


FIG. 5 Test Platform B-B Sectional View

(1) For all surfaces on the test platform where the product makes contact, clean the coverage area (as defined in 7.4.3.3) with a commercial cleaner intended for bath tubs, then wipe the coverage area with alcohol and allow to dry.

(a) Using a spray bottle containing a 1:25 mixture of test solution (see Solution comprised of ingredients as shown Table 1) in Table 1 to distilled water, immediately before each test run, thoroughly saturate all test platform surfaces above the water line where the product makes contact and where contact might be expected, or

(b) Flood the test platform with clear water that is at an initial temperature of 100 to 105°F (37.8 to 40.6°C) to a depth of 2 in. (51 mm) above the highest point of the occupant seating surface. Johnson's baby head-to-toe baby wash, or

(c) Aveeno baby wash and shampoo.

7.4.1.6 Inclinometer with a measurement tolerance of less than or equal to 0.5°. The maximum weight of the inclinometer and the fastening method shall be ≤2.2 lb (1 kg).

7.4.1.7 Test Bar—Install the product according to A 1 in. by ¼ the manufacturer's instructions onto the test platform specified in 7.4.3. For the purpose of measuring the water level, the product's seating surface can be temporarily weighed down to prevent the seat from floating. The weight shall be removed following the measurement bar. The length of the test bar shall be such that it extends beyond the uppermost edge or surface of the product at least as far as the maximum distance of D the water level and prior to conducting the test, as calculated below plus enough additional length to accommodate the attachment of the inclinometer as described below.

7.4.2 Test Surface #1 Preparation:

7.4.2.1 Determine the coverage area for a product that contacts or attaches to the bottom surface of an adult bath tub for its support and stability. Clean the coverage area with any commercial cleaner intended for bath tubs, following the cleaner's instructions. Then wipe the coverage area with alcohol and allow to dry.

TABLE 1 Representative Baby Wash^A

NOTE 1—Instructions:

- Mix Polyquaternium-10 with 40 % of the water to hydrate.
- Mix surfactants and the rest of the water until uniform, then add polymer solution.
- Add preservative and fragrance mixture. Mix well.
- Adjust final pH (6 to 7) with citric acid.
- Viscosity range: 6000 to 10 000 cPs.

Ingredients	% Weight	Function
Cocamidopropyl Betaine (30 % active)	14.0	Surfactant
PEG-80 Sorbitan Laurate (74 % active)	5.0	Anti-irritant
Sodium Laureth Sulfate (70 % active)	4.3	Surfactant
Glycerine	0.5	Humectant
Polyquaternium-10	0.2	Conditioner
PEG-150 Distearate	0.3	Thickener
Tetrasodium EDTA (40 %)	0.2	Chelant added for clarity
Dye/Fragrance	As desired	Not added
DMDMH	0.2	Preservative
Water	75.3	

■ ^A This baby wash (Lot #00536-133, made Aug. 16, 2005) can be obtained from ~~was originally manufactured by Cognis Care Chemicals, 300 Brookside Ave., Ambler, PA 19002. Alternatively, the~~ The baby wash solution may be generated following the instructions and using the ingredients in their respective percentages shown in this table.

7.4.2.2 Apply the safety tread strips evenly onto the coverage area at a distance of 0.375 ± 0.125 in. (9.5 ± 3 mm) apart from edge to edge.

7.4.2.3 Safety tread strips shall be replaced if they become damaged or dislodged from their specified position(s).

NOTE 3—The installation of the safety tread strips for Test Surface #1 will most likely need to be done only during the initial setup of this test surface, except for replacements that may be necessary from time to time.

7.4.3 Test Protocol—Protocol for Test Surface #1:

7.4.3.1 Clean the coverage area with any commercial cleaner intended for adult bath tubs following the cleaner’s instructions. Then wipe the coverage area with alcohol and allow to dry.

7.4.3.2 Use the spray bottle with the baby wash solution to thoroughly saturate the coverage area that is above the water level specified in 7.4.3.3.

7.4.3.3 Fill the test platform with clear water that is at an initial temperature of 100 to 105°F (37.8 to 40.6°C) to a depth of 2 in. (51 mm) above the estimated highest point of the occupant seating surface when the product is installed.

7.4.3.4 Install the product according to the manufacturer’s instructions onto the test surface. If the product has more than one manufacturer’s recommended use position, select one position for the initial test.

NOTE 4—If necessary, adjust the water level to the 2-in. (51-mm) requirement by either adding or removing water from the test platform.

7.4.3.5 Securely attach a 1-by-1/4-in. (25 by 6-mm) rigid aluminum flat-bar to the inside edge of the occupant seating space in a vertical orientation at the position that is most likely to cause the bath seat to tip over. The length of the flat bar must be such that it extends beyond the uppermost edge or over, with the widest surface of the bath seat at least as far as the maximum distance test bar facing outward from the product. D (calculated in Eq 1).

7.4.3.6 Calculate the distance D for a tipover force to be applied to the aluminum test bar using the following formula:

$$D = (20.4 \text{ in.} - H)/2 [(518 \text{ mm} - H)/2] \quad (1)$$

where:

H = the height of the uppermost edge or surface above the lowest point of the occupant seating surface.

7.4.3.7 Rigidly Securely install an the inclinometer to the test bar above the location where the force in 7.4.3.6 is to be applied. The weight of the inclinometer and the fastening method shall be ≤2.2 lb. The inclinometer shall have a measurement tolerance of less than or equal to 0.5°. Measure and record the pre-test angle of the test bar.

7.4.3.8 Apply a force of 17.0 lbf (76.5 N) force to the aluminum test bar at this distance D above the height H. Apply the force in a horizontal plane perpendicular to the test bar and outward from the center of the bath seat product over a period of 5 s (see Fig. 26). Maintain this force for an additional 10 s. If the bath seat product begins to release from the test surface, continue to maintain this force and its orientation relative perpendicular to the aluminum test bar until the bath seat product either tips over or the 10 s time limit is attained.

NOTE 5—If necessary, to prevent the product from sliding horizontally on the test surface during this test, the bottom edge of the product may be blocked or wedged to prevent such sliding. However, such blocking shall in no way interfere with or influence the results of this test.

NOTE 2—If necessary, to prevent the bath seat from sliding horizontally on the test surface during this test protocol, the bottom edge of the bath seat