



U.S. CONSUMER PRODUCT SAFETY COMMISSION

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Record of Commission Action Commissioners Voting by Ballot*

Commissioners Voting: Acting Chairman Robert S. Adler
 Commissioner Elliot F. Kaye
 Commissioner Dana Baiocco
 Commissioner Peter A. Feldman

ITEM:

Proposed Rule: Safety Standard for Crib Bumpers/Liners under the Danny Keysar Child Product Safety Notification Act
(Original briefing package dated September 4, 2019, OS No. 3909)
(Draft Substitute Amendment dated March 3, 2020)

DECISION:

The Commission voted (4-0) to approve publication of the proposed rule with specified changes, as described in the Draft Substitute Amendment dated March 3, 2020 (see attachment).

For the Commission:

Alberta E. Mills
Secretary

*Ballot vote due March 18, 2020

(Acting Chairman Adler transferred the ballot vote to a decisional meeting on September 6, 2019. On March 4, 2020 Acting Chairman Adler transferred the decisional meeting back to a ballot vote and the Commission voted by electronic poll on March 4, 2020 to set March 11, 2020 as the ballot vote due date. On March 10, 2020, the Commission voted by electronic poll to extend the ballot vote due date to March 18, 2020).

Billing Code 6355-01-P

CONSUMER PRODUCT SAFETY COMMISSION

16 CFR Parts 1112, 1130, and 1240

[CPSC Docket No. 2019-XXXX]

Safety Standard for Crib Bumpers/Liners

AGENCY: Consumer Product Safety Commission.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Danny Keysar Child Product Safety Notification Act, *i.e.*, section 104 of the Consumer Product Safety Improvement Act of 2008 (CPSIA), requires the United States Consumer Product Safety Commission (CPSC) to promulgate consumer product safety standards for durable infant or toddler products. These standards are to be “substantially the same as” applicable voluntary standards, or more stringent than the voluntary standard if the Commission concludes that more stringent requirements would further reduce the risk of injury associated with the product. The Commission is proposing a safety standard for crib bumpers/liners, and it is also proposing to identify crib bumpers/liners as durable infant or toddler products subject to CPSC’s consumer registration requirements. In addition, the Commission is proposing an amendment to include crib bumpers in the list of notice of requirements (NORs) issued by the Commission.

DATES: Submit comments by **[INSERT DATE 75 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: Comments related to the Paperwork Reduction Act aspects of the marking, labeling, and instructional literature requirements of the proposed mandatory standard for crib bumpers/liners should be directed to the Office of Information and Regulatory Affairs, the Office

of Management and Budget, Attn: CPSC Desk Officer, FAX: 202-395-6974, or e-mailed to oir_submission@omb.eop.gov.

Other comments, identified by Docket No. **CPSC-2019-XXXX**, may be submitted electronically or in writing:

Electronic Submissions: Submit electronic comments to the Federal eRulemaking Portal at: <http://www.regulations.gov>. Follow the instructions for submitting comments. The Commission does not accept comments submitted by electronic mail (e-mail), except through www.regulations.gov. The Commission encourages you to submit electronic comments by using the Federal eRulemaking Portal, as described above.

Written Submissions: Submit written submissions by mail/hand delivery/courier to: Office of the Secretary, Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, MD 20814; telephone (301) 504-7923.

Instructions: All submissions received must include the agency name and docket number for this proposed rulemaking. All comments received may be posted without change, including any personal identifiers, contact information, or other personal information provided, to: <http://www.regulations.gov>. Do not submit confidential business information, trade secret information, or other sensitive or protected information that you do not want to be available to the public. If furnished at all, such information should be submitted in writing.

Docket: For access to the docket to read background documents or comments received, go to: <http://www.regulations.gov>, and insert the docket number, **CPSC-2019-XXXX**, into the “Search” box, and follow the prompts.

FOR FURTHER INFORMATION CONTACT: Timothy P. Smith, Project Manager, Directorate for Engineering Sciences, U.S. Consumer Product Safety Commission, 5 Research Place, Rockville, MD 20850; telephone: (301) 987-2557; email: tsmith@cpsc.gov.

SUPPLEMENTARY INFORMATION: The CPSC proposes to issue a standard for crib bumpers/liners under section 104 of the CPSIA, amend the consumer registration rule to include crib bumpers/liners, and add crib bumpers/liners to the NOR list in 16 CFR part 1112.¹

I. Background and Statutory Authority

Section 104(b) of the CPSIA, part of the Danny Keysar Child Product Safety Notification Act, requires the Commission to: (1) examine and assess the effectiveness of voluntary consumer product safety standards for durable infant or toddler products, in consultation with representatives of consumer groups, juvenile product manufacturers, and independent child product engineers and experts; and (2) promulgate consumer product safety standards for durable infant or toddler products. Standards issued under section 104 are to be “substantially the same as” the applicable voluntary standards, or more stringent than the voluntary standard if the Commission concludes that more stringent requirements would further reduce the risk of injury associated with the product.

Section 104(f)(1) of the CPSIA defines the term “durable infant or toddler product” as “a durable product intended for use, or that may be reasonably expected to be used, by children under the age of 5 years.” The statute also specifies 12 categories of products that fall within the definition. Crib bumpers are not listed among the products in section 104(f); however, on October 19, 2016, the Commission voted to amend the agency’s fiscal year 2017 (FY 2017) Operating Plan, directing staff to initiate rulemaking under section 104 of the CPSIA to

¹ [Add information about Commission vote].

promulgate a mandatory consumer product safety standard to address the risk of injury associated with the use of padded crib bumpers.² The FY 2017 Operating Plan also directed staff to propose to amend the definition of “durable infant or toddler product” in the consumer registration rule to include “crib bumpers.”

Pursuant to section 104(b)(1)(A) of the CPSIA, CPSC staff consulted with manufacturers, retailers, trade organizations, laboratories, consumer advocacy groups, consultants, and members of the public in the development of this notice of proposed rulemaking (NPR), largely through the ASTM process. ASTM subcommittee members represent producers, users, consumers, government, and academia.³ Staff began the consultation process for this rulemaking in December 2016 in a letter to ASTM requesting that the ASTM F15.19 Subcommittee on Infant Bedding form task groups related to (1) firmness requirements, (2) airflow requirements, and (3) warning and instructional requirements, to initiate activities to update ASTM F1917, *Standard Consumer Safety Performance Specification for Infant Bedding and Related Accessories*, with more stringent requirements that will further reduce the risk of injury associated with crib bumpers. Since then, CPSC staff has been actively participating in the ASTM subcommittee activities to address these issues.

This NPR incorporates by reference the most recent voluntary standard developed by ASTM International, ASTM F1917-12, *Standard Consumer Safety Performance Specification for Infant Bedding and Related Accessories*, with substantial modifications that the Commission concludes would further reduce the risk of injury or death from crib bumpers/liners. If finalized,

² The final, approved FY 2017 Operating Plan can be found here: <https://www.cpsc.gov/s3fs-public/CPSCFY2017OpPlan.pdf>. The Commission reaffirmed this decision in the FY18 Operating Plan, which can be found here: https://www.cpsc.gov/s3fs-public/FY_2018_Operating_Plan_August302017.pdf.

³ ASTM International website: www.astm.org, About ASTM International.

the ASTM standard incorporated by reference, as modified, would be a mandatory safety rule under the Consumer Product Safety Act (CPSA).

The testing and certification requirements of section 14(a) of the CPSA apply to the standards promulgated under section 104 of the CPSIA. Section 14(a)(3) of the CPSA requires the Commission to publish an NOR for the accreditation of third party conformity assessment bodies (test laboratories) to assess conformity with a children's product safety rule to which a children's product is subject. The proposed rule for crib bumpers/liners, if issued as a final rule, would be a children's product safety rule that requires the issuance of an NOR. To meet the requirement that the Commission issue an NOR for the crib bumpers/liners standard, this NPR also proposes to amend 16 CFR part 1112 to include 16 CFR part 1240, the CFR section where the crib bumpers standard will be codified, if the standard becomes final.

II. Product Description

Traditionally, crib bumpers are infant bedding accessories that attach to the interior perimeter of a crib and function as a barrier between the infant and the sides of the crib. However, the design of these products can vary. The most common type of crib bumper consists of one or more rectangular fabric panels, constructed of cotton or polyester, with filling material for padding and with fasteners to attach to a crib. The fasteners are often ties that are secured to the crib corner posts, crib slats or spindles, or both. However, other fastening methods exist. These products commonly are marketed as preventing injury to infants from impacts against the sides of a crib and preventing limb entrapments between crib slats. Bumpers also are used to decorate the infant's sleep environment and might be promoted as making a crib more comfortable.

Less common designs of crib bumpers include “vertical” bumpers or liners, which essentially are a series of small bumpers that individually enshroud each vertical crib slat or spindle. These products generally claim to offer benefits that are comparable to traditional bumpers while allowing airflow through the sides of a crib. Vertical bumpers may also be marketed with a longer recommended useful lifespan than traditional bumpers for children with special needs. More recent crib bumper variants are braided bumpers, which consist of two or more fabric sleeves, containing filling material, and that are braided together. Other bumper variants exist that look similar to traditional bumpers but are marketed with claims of being “breathable.” Mesh crib liners are similar in their marketing claims that the products are breathable, but these products tend to be thinner than traditional bumpers, with minimal padding, if any, because they are not intended to prevent impact injuries.

All of these products, like traditional crib bumpers, line the interior sides of a crib and functionally limit or prevent access to the crib sides, so, in principle, all of these products might present similar hazards and benefits to infants. Thus, this proposed rule includes all of these products within its scope. Throughout this Federal Register notice, the term “crib bumpers” or “bumpers” includes these other products, unless specifically excluded.⁴

III. Incident Data

CPSC has identified 113 fatal incidents associated with crib bumpers (*i.e.*, cases in which a crib bumper was present in the sleep environment) reported to have occurred from January 1, 1990 through March 31, 2019.⁵ CPSC has identified 113 nonfatal incidents and concerns that

⁴ As discussed herein, ASTM F1917-12 does not contain a definition of “crib bumpers.”

⁵ Although this nearly 30-year timeframe is considerably longer than the 10-year timeframe that CPSC commonly employs in other section 104 rulemaking activities, CPSC staff’s 2016 briefing package concluded that all the reported fatalities that staff examined and considered most likely to be addressable occurred before 2008. (<https://www.cpsc.gov/s3fs-public/StaffResponsetotheRecordofCommissionActiononCribBumper.pdf>.) Thus, to be as inclusive as possible, CPSC has chosen to retain reported fatalities as far back as 1990.

involved crib bumpers and were reported to CPSC from January 1, 2008, through March 31, 2019. Because reporting is ongoing, the number of reported fatalities and nonfatal incidents and concerns may change in the future. Specifically, data for years 2017 through 2019 are not complete.

A. Fatalities

CPSC has reports of 113 fatalities associated with bumpers, which were reported to have occurred between January 1, 1990 and March 31, 2019. To CPSC's knowledge, all bumpers involved in these incidents were traditional bumpers, and all but eight involved the bumper inside a crib.⁶

CPSC staff classified 30 of the 113 crib bumper-related fatalities as "incidental." In three of these cases, the cause of death was known to have been exclusively medical in nature, and therefore unrelated to the bumper. In 27 of these 30 cases, although a bumper was present, there was no evidence of bumper contact with the infant.

Of the remaining 83 reported fatalities, 75 (90 percent) involved infants younger than 12 months and 51 (61 percent) involved infants 4 months old or younger. Only three of the 83 reported fatalities involved children 2 years old or older; one of these children had health issues, one was developmentally delayed, and the third went into cardiac arrest about a year after the bumper-related incident, when the child was likely an infant.

B. Nonfatal Incidents and Concerns

CPSC has reports of 113 bumper-related nonfatal incidents and concerns that were related to crib bumpers and were reported to CPSC from January 1, 2008, through March 31,

⁶ Three incidents occurred in a toddler bed, three in a bassinet, one in a playpen, and one on a mattress on the floor.

2019. Of these 113 nonfatal reports, 60 resulted in injury, 50 did not result in injury, and the disposition of 3 is unknown. Fifteen (13 percent) of the 113 nonfatal incidents and concerns reportedly involved a breathable bumper or mesh liner. Thirty-five cases did not report the child's age. Of the remaining 78 nonfatal incidents and concerns, 47 (60 percent) involved infants younger than 12 months.

C. Product Recalls

CPSC staff reviewed recalls involving crib bumpers that occurred from July 9, 1990 through April 17, 2019. Staff identified five consumer-level recalls during that period to mitigate against risks of entanglement, entrapment, suffocation, and choking from loose threads (e.g., unraveling ties, breaking threads and seams) and from bumper ties that either detached from the product or were too long.

IV. Hazard Pattern Identification

A. Fatal Incidents

Generally, the cause of death in the fatal incidents was reported as asphyxia, suffocation, or Sudden Infant Death Syndrome (SIDS). A number of reports indicated that in addition to a crib bumper being present, the sleeping environment contained multiple additional items, such as pillows, blankets, and stuffed dolls. In many of these incidents, it is unclear what role, if any, the crib bumper played in the death of the child. CPSC staff, through group consensus, categorized the fatalities into hazard scenarios based on the best available account information about the position of the child when found and the cause of death ruled by the medical examiner.

As mentioned previously, 30 of the 113 reported fatalities were incidental. Table 1 shows the distribution of the remaining 83 non-incidental reported fatalities by hazard scenarios.

**Table 1: Reported Fatalities by Hazard Scenario
January 1, 1990 - March 31, 2019**

| Hazard | Reported Fatalities | Percent⁷ |
|---|----------------------------|----------------------------|
| Entrapment/Wedging | 44 | 53 |
| <i>Against Object in Crib</i> | 25 | 30 |
| <i>In Perimeter of Crib</i> | 13 | 16 |
| <i>Other</i> | 6 | 7 |
| Contact Without Entrapment/Wedging | 27 | 33 |
| Contact With Possible Entrapment/Wedging | 7 | 8 |
| Contact Outside Crib | 5 | 6 |
| Total | 83 | 100 |

Source: CPSRMS and NEISS databases

Reporting is ongoing for these databases, especially for 2017-2019.

1. Entrapment/Wedging: In 53 percent (44 out of 83 fatalities) of the reported fatalities, the child was found wedged or entrapped against the bumper. This category was divided into three scenarios in which the child was found wedged or entrapped.
 - a. *Against Object in Crib*: In 30 percent (25 out of 83 fatalities) of the reported fatalities, the child was entrapped or wedged between a crib bumper and another object in the crib, such as a bed pillow, an infant recliner, or a cushion.
 - b. *In Perimeter of Crib*: In 16 percent (13 out of 83 fatalities) of the reported fatalities the child was found entrapped between the mattress and the side of the crib, on which a crib bumper was installed. Nine of these cases involved a crib that was structurally compromised, with features such as detached crib side rails, or missing or detached crib slats.
 - c. *Other*: Seven percent (6 out of 83 fatalities) of the reported fatalities involved entrapment against a crib bumper in some scenario not covered by the two prior Entrapment/Wedging hazard patterns, such as a child being found wedged under the crib bumper.

⁷ Percentages may not sum to 100 due to rounding.

2. Contact Without Entrapment/Wedging: In 33 percent (27 out of 83 fatalities) of the reported fatalities, the child was reportedly in contact with, but not entrapped or wedged against, the crib bumper.

3. Contact With Possible Entrapment/Wedging: In eight percent (7 out of 83 fatalities) of the reported fatalities, the child was found to be in contact with the crib bumper, but the incident scenario lacked sufficient details for the staff to determine whether the child was entrapped or wedged against the bumper. These fatalities typically described the child as being found with his or her face between the mattress and the crib bumper. The incident descriptions often used the phrase “wedged between” to describe the position of the child’s face when found. However, staff discovered that some incidents without entrapment or wedging used similar language to describe the orientation of the child’s face relative to the two surfaces. Thus, incidents in this category did not include sufficient details to enable CPSC staff to conclude whether the child was truly entrapped or wedged against the bumper.

4. Contact Outside Crib: Six percent (5 out of 83 fatalities) of the reported fatalities were cases in which the child was in contact with a crib bumper that was outside a crib. Staff is aware of three other incidents involving a bumper outside a crib, but in those incidents there was no evidence of contact with the crib bumper, and thus, these three fatalities were ruled incidental and not included.

B. Nonfatal Incidents

Table 2 summarizes the hazard patterns for the bumper-related nonfatal incidents. In cases where multiple hazards were mentioned, the hazard that could have caused the most severe injury was used.

**Table 2 Reported Nonfatal Incidents or Concerns by Hazard Pattern
January 1, 2008 - March 31, 2019**

| Hazard | Incidents/Complaints | Percent⁸ |
|-------------------------------------|-----------------------------|----------------------------|
| Slat Entrapments | 38 | 34 |
| Climbing or Climb-Outs | 12 | 11 |
| Under or Behind Bumper | 10 | 9 |
| Near-Strangulation or Entanglements | 8 | 7 |
| Entrapped Against Object in Crib | 7 | 6 |
| Choking or Ingestion of Small Parts | 7 | 6 |
| Other | 14 | 12 |
| Concerns | 17 | 15 |
| Total | 113 | 100 |

*Source: CPSRMS and NEISS databases
Reporting is ongoing for these databases, especially for 2017-2019.*

1. Slat Entrapments: Thirty-four percent (38 out of 113 non-fatalities) of reported nonfatal incidents involved arm or leg entrapments between the slats of the crib, even though a crib bumper was present. Seven of the 38 slat entrapments reportedly involved a breathable bumper or mesh liner. Of the 38 slat entrapments, 27 incurred injuries.
2. Climbing or Climb-Outs: Eleven percent (12 out of 113 non-fatalities) of reported nonfatal incidents occurred when a child, old enough to stand up, reportedly used the bumper as a step to climb. The child often fell back into the crib or fell out of the crib. The youngest children in these incidents were two 7-month-old children.
3. Under or Behind Bumper: In nine percent (10 out of 113 non-fatalities) of reported nonfatal incidents, the child or some part of the child was found under or behind (*i.e.*, against the crib side) the crib bumper. In seven cases, the child reportedly was trapped under or behind the bumper. In two cases, the bumper covered the child's face, but the child was not entrapped. In one case, the face was under the bumper while the legs were trapped in the slats. Some of these cases reported that the bumper was missing bottom ties.

⁸ Percentages may not sum to 100 due to rounding.

4. Near-Strangulation or Entanglements: Seven percent (8 out of 113 non-fatalities) of reported nonfatal incidents involved the tie, threading, or stitched-on components of a crib bumper becoming loose and wrapping around body parts of the child. Half of these incidents specifically mention the head, mouth, or neck being wrapped up by a piece of a crib bumper. However, none of these incidents involved a bumper tie wrapping around a child's neck.
5. Entrapped Against Object in Crib: In six percent (7 out of 113 non-fatalities) of reported nonfatal incidents, the child was entrapped between a crib bumper and another object in the crib, such as a sleep positioner or an infant recliner.
6. Choking or Ingestion of Small Parts: Six percent (7 out of 113 non-fatalities) of reported nonfatal incidents involved choking or ingestions. These incidents generally involved the child putting a piece of the crib bumper, such as decorative stitched-on patterns, the ties, or the stuffing from inside the bumper, into their mouth.
7. Other: Twelve percent (14 out of 113 non-fatalities) of reported nonfatal incidents were other issues involving a child, including: bumper integrity issues such as ties detaching or being pulled off, stitching being pulled out, and paint rubbing off; injuries caused by contact with crib bumpers; needles found in the padding of the bumper; injuries, such as cuts and bruises on the crib rail, that occurred despite the presence of the bumper; portions of the crib (*e.g.*, crib rails or slats, crib side) breaking or separating while bumpers were in use; and an entrapment between a crib toy and the crib mattress while in contact with the bumpers.
8. Concerns: Fifteen percent (17 out of 113 non-fatalities) of reported nonfatal incidents and concerns did not involve an actual incident with a child, but instead, were general crib bumper-related problems observed by the parent or complainant. Common examples of concerns with crib bumpers were: bumper integrity issues such as ties detaching or the bumper coming apart;

concerns about poor bumper fit or bumpers missing the lower ties; and general concerns about bumpers posing a safety hazard.

V. Standards for Crib Bumpers

A. International Standard

CPSC is aware of one international standard that contains performance requirements for crib bumpers/liners: BS EN 16780:2018, *Textile child care articles – Safety requirements and test methods for children’s cot bumpers*. (BS EN 16780:2018).⁹ BS EN 16780:2018 has requirements to address falls from the crib, suffocation on materials, strangulation on cords, entrapment of fingers/toes, sharp or abrasive edges, choking, internal injuries from magnets, entrapment, strangulation, choking, cuts and abrasions. EN 16780:2018 also includes requirements pertaining to chemical hazards, fire hazards, and hygiene hazards.

EN 16780:2018 requires that the design of the product prevent the crib bumper/liner from falling into the crib, but the design requirement does not have a test method. The standard does not have a requirement for the firmness of crib bumpers/liners. Additionally, although there are specific requirements (prohibitions) for plastic surfaces that could affect breathability, the rationale for that requirement assumes the air flow characteristics of the underlying woven fabric and filling materials are adequate. The standard provides no basis for its rationale and lacks a test method. The contact of an infant’s face into a soft crib bumper/liner is not addressed.

⁹ The foreword to BS EN 16780:2018 states that the British Standard is the UK implementation of EN 16780:2018, and it partially supersedes BS 1877-10:2011+A1:2012. The foreword also states that “BSI, as a member of CEN, is obliged to publish EN 16780:2018 as a British Standard. However, attention is drawn to the fact that during the development of this European Standard, the UK committee voted against its approval.” BS 1877-10:2011+A1:2012 has length and strength requirements for crib bumper ties similar to those in EN 16780:2018, but does not have any thickness or firmness requirements for crib bumpers.

B. State and Local Standards

Some state and local jurisdictions have banned the sale of crib bumpers.

- *Chicago, IL:* The sale or lease of any “crib bumper pad” is illegal in Chicago, IL, effective April 5, 2012.¹⁰ The Chicago code defines a “crib bumper pad” as: “any padding material, including but not limited to a roll of stuffed fabric, which is designed for placement within a crib to cushion one or more of the crib’s inner sides adjacent to the crib mattress.”
- *Maryland:* Effective June 21, 2013, Maryland’s Department of Health and Mental Hygiene (DHMH) published final regulations that declare “baby bumper pads” to be a hazardous material that may not be shipped or sold to a purchaser in Maryland. The Maryland regulation defines “baby bumper pad” as: “a pad or pads of non-mesh material resting directly above the mattress in a crib, running the circumference of the crib or along the length of any of the interior sides of the crib, and intended to be used until the age that an infant pulls to a stand.” The regulation also states that a “new” ASTM voluntary standard for these products might replace the ban if the DHMH Secretary determines that products complying with the ASTM standard are not a danger to public health and safety, and that the Secretary may suspend the regulation if the CPSC affirmatively finds that the benefits of certain bumpers exceed the risks. The ban does not apply to mesh crib liners or to vertical bumpers that wrap tightly around each individual crib rail.¹¹

¹⁰ Chicago, IL., Mun. Code § 7-36-112.

¹¹ See <https://phpa.health.maryland.gov/mch/Pages/crib-bumpers.aspx>.

- *Watchung, NJ:* On December 15, 2016, the borough of Watchung, NJ, amended its police regulations to prohibit the sale or lease of “crib bumper pads,”¹² which are defined as: “any padding material, including but not limited to a roll of stuffed fabric or breathable liner, which is designed for placement within a crib to cushion one or more of the crib’s inner sides adjacent to the crib mattress.” The ordinance explicitly states that mesh liners are not included in the definition of “crib bumper pad.”
- *Ohio:* On April 6, 2017, Ohio banned the manufacture, sale, or delivery of “crib bumper pads,”¹³ defined as: “any padding material, including a roll of stuffed fabric, that is designed for placement within a crib to cushion one or more of the crib’s inner sides adjacent to the crib mattress.” The definition also states that “crib bumper pad” excludes mesh crib liners, regardless of whether CPSC includes mesh liners in its definition of “crib bumper pad.” The ban excludes mesh crib liners for no more than 3 years after the effective date, unless such liners comply with consumer product safety standards promulgated by CPSC to ensure sufficient permeability and breathability to prevent infant suffocation.

The states of Missouri, New York, and Vermont are considering similar bans. In addition, in June 2019, a bill to ban the manufacture, importation, and sale of crib bumpers in the United States, the “Safe Cribs Act of 2019” (H. R. 3170 and S. 1816), was introduced in Congress. The bill, as introduced, defined the term “crib bumper” broadly to include not only traditional padded crib bumpers, but also mesh crib liners and vertical bumpers, or crib slat covers. However, on July 10, 2019, the House Committee on Energy and Commerce,

¹² Revised General Ordinances of the Borough of Watchung, Chapter VI § 6-13, Ord. No. 2016-15.

¹³ 37 Ohio Rev. Code § 3713.

Subcommittee on Consumer Protection and Commerce, amended the definition of “crib bumper” in H. R. 3170 to exclude mesh liners.

VI. Voluntary Standard—ASTM F1917

A. Background

ASTM F1917, *Standard Consumer Safety Performance Specification for Infant Bedding and Related Accessories*, contains requirements for infant bedding and related accessories, including crib bumpers, in the United States. The current version of the voluntary standard was published in 2012 (ASTM F1917 – 12). This is the third revision since the standard was first published in 1999.

B. Description of the Current Voluntary Standard—ASTM F1917-12

ASTM F1917-12 includes the following key provisions: scope, terminology, general requirements, performance requirements, test methods, and labeling requirements. Tab C of the staff’s briefing package provides details about the standard. We summarize key provisions below.

The scope section of ASTM F1917-12 provides that the standard applies to “infant bedding and related accessories.” Section 3.1.4 of ASTM F1917-12 defines the term “infant bedding and related accessories” to include the following items intended for use in a nursery: fitted sheets, blankets, dust ruffles, covers and drapes for canopies, pillows, mattress covers, diaper stackers, fabric wall, bumper guards, headboard bumper guards, and comforters. This proposed rule would apply only to crib bumpers. ASTM F1917-12 does not define “crib bumper.”

ASTM F1917-12 contains general requirements for the bumper’s attachment means (*e.g.*, ties), decorative components, and threads. Section 5 of ASTM F1917-12 requires crib bumpers

to be “capable of being secured at or near all corners and at the midpoints of the long sides of the crib,” and specifies that bumpers intended for circular cribs must be capable of being secured at intervals not exceeding 26 inches.

Section 6 of ASTM F1917-12 includes performance requirements and test methods for unsupported vinyls, maximum bumper thickness, and bumper pad tie strength. ASTM F1917-12 defines unsupported vinyl as vinyl that is not integrated to a backing material. The standard requires that unsupported vinyl that is accessible to an infant be 0.012-in (0.3mm) thickness or greater. The maximum bumper thickness requirement in ASTM F1917-12 uses a bumper thickness test fixture to limit the maximum thickness of crib bumpers to about 2 inches. The bumper thickness test applies only to crib bumpers manufactured of fabric and filled with a fibrous material. The bumper pad tie strength requirement in ASTM F1917-12 only applies to ties, and no other means of attachment.

Section 8 of ASTM F1917-12 contains warning and instructional requirements for infant bedding and related accessories, and includes warnings that must appear on certain products covered by the standard.

VII. Assessment of the Voluntary Standard ASTM F1917-12

CPSC assessed the adequacy of ASTM F1917-12 on the basis of the incident data and hazard patterns, and on CPSC’s review of the current voluntary standard for issues requiring clarification. A more stringent standard than the current ASTM standard is necessary to further reduce the risk of injury associated with crib bumpers. Accordingly, the proposed rule includes substantial changes and additions to the existing voluntary standard requirements.

A. Addition of Crib Bumper Definition

ASTM F1917–12 includes several performance and labeling requirements for crib bumpers. However, the voluntary standard identifies these products inconsistently as: “bumper pad” (section 6.3, 7.4, 7.4.1, Note 2), “bumper guards” (3.1.4, 5.1, 5.4), “headboard bumper guards” (3.1.4, 5.1), “headboard/bumper set” (8.2.1), “bumper” (3.1.1, 6.2, Figure 1 caption, 7.3, 8.2.1), and “crib bumper” (6.2). The voluntary standard does not define any of these terms. The Commission is proposing a broad definition that encompasses traditional crib bumpers as well as mesh crib liners. Products that cover only the top rail of a crib would not be considered crib bumpers. Such top rail covers do not serve the same function as a crib bumper or mesh liner. Taking these factors into account, the Commission proposes to define products that are subject to the rule in the following way:

crib bumper/liner, n—any product intended to be placed against any portion of the interior perimeter of a crib, and that reduces or eliminates an infant’s access to the crib sides, slats, spindles, or the spaces between these components.

Discussion—Such products are commonly referred to as crib bumpers, crib liners, mesh liners, bumper pads, bumper guards, and headboard panels, but do not include products intended to cover only the top horizontal rail of a crib.

Defining the products that are subject to the rule using consistent terms will further reduce the risk of injury associated with crib bumpers by providing clarity to manufacturers and testing laboratories about which products are subject to the requirements of the proposed rule. The ASTM Infant Bedding subcommittee intends to ballot this definition as part of its revisions to the F1917 standard.

B. Suffocation Hazard

1. Crib Bumper Thickness

Pillows, and other soft, pillow-like objects can pose a suffocation hazard to infants by conforming to the face and blocking the nose and mouth. ASTM F1917-12 addresses the potential suffocation hazard posed by crib bumpers by limiting the maximum thickness of crib bumpers to about 2 inches, thereby eliminating soft, pillow-like crib bumpers from the marketplace. The ASTM standard specifies a bumper thickness test fixture to assess the bumper's thickness, by limiting the maximum thickness of crib bumpers to about 2 inches, thereby eliminating soft, pillow-like crib bumpers from the marketplace.^{14,15} However, ASTM F1917-12 only applies this test to bumpers manufactured of fabric and filled with a fibrous material. The Commission proposes to apply this thickness requirement to all crib bumpers/liners regardless of their construction, because bumpers made from other materials (*e.g.*, filled with foam) still could be soft and pillow-like, and pose the same hazard. Broadening the existing requirement to apply to all crib bumpers/liners would further reduce the risk of suffocation. The ASTM Infant Bedding subcommittee intends to ballot a similar change to the F1917 standard.

CPSC staff's testing of crib bumper samples also identified some bumpers that passed through the bumper test fixture, but at such an extremely slow rate that staff found it difficult to determine whether the bumper passed or failed the test. Thus, the Commission is proposing to include a minimum rate at which the bumper must pass through the fixture to more clearly delineate a pass from a fail. Specifically, the Commission proposes a rate of no less than 0.5

¹⁴ ASTM F1917 – 12, Section X1.1.

¹⁵ Petition CP 12-2, "Petition Requesting a Performance Standard to Distinguish and Regulate Hazardous Pillow-Like Crib Bumpers from Non Hazardous Traditional Crib Bumpers Under Sections 7 and 9 of the Consumer Product Safety Act," from the Juvenile Products Manufacturers Association (JPMA).

inches per second. Because the surface finish of the slot in the bumper thickness test fixture can affect how quickly a bumper can slide through it and can introduce variation among test laboratories and fixtures, the Commission is also proposing a minimum finish requirement for the test fixture. Specifically, the Commission proposes a surface finish of 1.6 Ra (roughness average), which is a common “smooth” specification and is practical to achieve. Both of these additional requirements—the recommended rate and the recommended surface finish—should further reduce the risk of suffocation by improving a test laboratory’s ability to identify crib bumpers that would fail the thickness test.

2. Crib Bumper Firmness. The F1917–12 maximum thickness requirement for crib bumpers is intended to address the suffocation hazard by eliminating “soft” pillow-like crib bumpers. However, thickness is not the same as softness, and the ability of a surface to conform around a child’s face is an important indicator of suffocation hazards. Currently, one could make a crib bumper that would pass the maximum thickness requirement in ASTM F1917–12, but still would be soft enough to readily conform to an infant’s face. In fact, a crib bumper that is especially soft could be thicker than the bumper thickness test fixture and still pass the maximum thickness test because of its very pliable, pillow-like quality. Thus, to further reduce the risk of injury associated with crib bumpers, the Commission proposes to include an additional firmness requirement.

The Commission is proposing a firmness requirement and test method that is based on an Australian/New Zealand standard, AS/NZS 8811.1:2013, *Methods of Testing Infant Products: Part 1: Sleep Surfaces—Test for Firmness*, which is intended to assess the firmness of infant mattresses and other horizontal sleep surfaces for “excessive compression.” The test uses a device that consists of a circular disk of a certain size and weight, with an attached “feeler arm”

that extends over the edge of the disk. The device is placed on the product, which compresses under the device's weight. If the compression is enough to cause the feeler arm to touch the surface of the product, the product fails. The test device was developed based on a device that was used in a German study to objectively measure the softness of mattresses and underlay surfaces as part of a case-control study of SIDS.

The test's failure criteria are intended to identify soft surfaces that pose a three-fold increase in the risk of SIDS. CPSC staff tested crib bumper samples to the ASTM F1917-12 thickness requirement and to the proposed firmness requirement. Staff found that many bumpers that passed the thickness requirement would fail the firmness requirement. Although staff tested a limited number of samples, all bumper samples up to 0.8 inches thickness passed the firmness test, while all bumper samples 1.2 inches or greater failed the test; bumpers 1 inch thick had mixed results. Nevertheless, it is possible that some bumpers greater than 1 inch thick could be firm enough to pass the test, and some bumpers less than 1 inch could be soft enough to fail. One of the samples that failed the firmness test yet passed the F1917 maximum thickness test measured 2.5 inches thick, which is a half-inch thicker than the 2-inch slot that is used to test thickness. Its very pliability, or softness, allowed it to pass the thickness test.

CPSC staff has been working with the ASTM Infant Bedding Subcommittee task group on crib bumper firmness. CPSC staff and members of the task group agree that the proposed firmness requirement and test method would address a worst-case scenario in which the crib bumper separates from the crib side or otherwise protrudes into the sleep area and gets underneath an infant. In this scenario, the bumper would present a smothering-type suffocation hazard similar to a quilt or other piece of soft bedding that is able to conform to, and occlude, airway openings. CPSC is aware of nonfatal incidents involving bumpers without lower ties or

with ties detaching from the bumper, either of which would allow for this scenario. Some reported fatalities have limited or conflicting details about the infant's face relative to the crib bumper, and these incidents might have involved this scenario. In addition, CPSC examination of crib bumper samples found that long continuous bumpers could be mistakenly installed on a crib in ways that would result in a loose fit and possible sagging. The proposed firmness requirement would reduce the risk of injury of bumpers in the event that consumers incorrectly install these products and the product enters the sleep area.

The Commission also concludes that its proposed firmness requirement could improve the safety of crib bumpers by offering some protection against other smothering-type suffocation deaths where the victim's face is forcefully pressed against a bumper to fully or partially occlude external airway openings. Scenarios involving infant wedging or entrapment against a bumper, in general, and infant entrapment between the bumper and another object in the crib in particular, are especially common in the reported fatalities. Some of these incidents involve the face being pressed against the bumper, and a firmness requirement would reduce the risk of injury associated with this scenario, provided the applied pressure was not sufficient to compress and close nostril openings.

The ASTM Infant Bedding subcommittee is preparing a ballot that includes the proposed firmness requirement.

C. Suffocation Hazard and Entrapment Hazard—Crib Bumper Attachment

ASTM F1917–12 requires crib bumpers to be “capable of being secured at or near all corners and at the midpoints of the long sides of the crib,” and specifies that bumpers intended for circular cribs must be capable of being secured at intervals not exceeding 26 inches (section 5.4). CPSC has the following concerns with this provision:

- How “near” the corners a bumper would need to be to pass the requirement is not clear.
- The intervals specified—from 26 inches for a circular crib to 28 inches corner to corner for the short end of a crib— are large enough to easily allow a bumper to sag or to pull away from the crib side. CPSC is aware of reported fatalities involving bumpers that were sagging, and consumers have reported concerns about poor fit between bumpers and the crib in which they were installed.
- Crib bumpers can meet the requirement when they are not secured or flush at both the top and bottom edges of the bumper. CPSC is aware of reported fatalities and nonfatal incidents in which the victim was entrapped or able to slip beneath the bottom edge of the bumper, and there have been nonfatal incidents involving entrapment behind the bumper (*i.e.*, between the bumper and the crib side). In addition, some consumers have reported concerns about bumpers that did not include ties along the bottom of the bumper.

The Commission is proposing a new performance requirement that would replace the existing F1917 attachment requirements. The proposed requirement would not allow a small head probe to pass between an installed crib bumper and the interior crib side, at any location around the perimeter of the bumper most likely to fail. The small head probe is the same one used in ASTM F963, *Standard Consumer Safety Specification for Toy Safety*, and approximates the 5th percentile head size of an infant 0 to 3 months old.¹⁶ The Commission believes that this alternative attachment requirement and test method will further reduce the risk of injury associated with crib bumpers. Specifically, the proposed requirement could reduce the risks of suffocation and entrapment associated with infants accessing the spaces under and behind

¹⁶ This probe, which is used to test for hazardous loops and cords, is based on the 5th percentile head length and breadth dimensions of an infant 0 to 3 months old (ASTM F963 – 03, Section A5.7.13).

installed crib bumpers. The ASTM Infant Bedding subcommittee has formed a Bumper/Liner Attachment task group, which is developing a similar requirement for the F1917 voluntary standard.

D. Entanglement, Choking, and Suffocation Hazards—Crib Bumper Tie/Attachment Means Strength Requirement

Some nonfatal incidents and reported consumer concerns involved parts of the crib bumper (such as the ties, threads, or stitched-on decorative patterns) wrapped around the neck, limb or digit of the child. In addition to entanglement concerns, some incidents involved a child's ingestion of, or choking on, part of the crib bumper, such as a decorative stitched-on pattern or the bumper's filling material. The attachments means separating from the bumper could also pose a suffocation hazard, because this could allow the bumper to fall or sag into the crib.

1. Attachment Means, Decorative Components, and Seams

ASTM F1917–12 includes a strength requirement for crib bumper ties. The ties must withstand a certain amount of force without detaching from the bumper. This requirement addresses the nonfatal incidents and reported consumer concerns involving crib bumper ties separating from bumpers. However, the standard does not define “ties,” but rather, “attachment means.” Ties are merely one form of attachment means. Thus, the Commission is proposing to revise the strength requirement for bumper ties to apply to all attachment means, rather than just to ties. The ASTM Infant Bedding subcommittee currently is considering an identical change to the F1917 standard.

2. Decorative Components and Seams Strength Requirements

In addition, the Commission is proposing to include strength requirements for decorative components and bumper seams so that they too must withstand a certain amount of force without detaching from the bumper. Because decorative components may be subjected to similar stressors as attachment means, the Commission proposes similar strength requirements for both. The proposed seam strength requirement includes a criterion that, after testing, there shall not be an opening that permits insertion of a 0.22-inch diameter rod. This diameter is based on the finger entrapment probe that is employed in many children's product tests.

ASTM F1917–12 specifies certain dimensional limits (*e.g.*, measured lengths or perimeters) for attachment means (section 5.1) and decorative components (5.2). However, the current language would pass crib bumpers that include components that exceed these limits after having been subjected to the strength testing, which could present entanglement and choking hazards. The Commission proposes to require crib bumpers to meet these dimensional limits both before and after strength testing.

E. Suffocation, Entanglement and Fall Hazards—Crib Bumper Warnings and Instructions

ASTM F1917–12 includes marking and labeling requirements—primarily warning requirements—for crib bumpers. However, the Commission concludes that these requirements do not adequately address the risk of injury and death associated with crib bumpers. The current warning content, format, and placement requirements are deficient. Additional requirements, including requirements for warning permanence and instructional literature, would further reduce the risk of injury associated with crib bumpers.

1. Warning Content and Format

The current F1917 warning provides incomplete and insufficient information about steps that consumers can take to reduce the risk of suffocation, and lacks key details about when and

why crib bumpers should be removed from the crib. For example, CPSC is aware of reported fatalities involving entrapments between the bumper and another object in the crib, use of the bumper outside a crib (*e.g.*, in a toddler bed or bassinet), and use of the bumper in a broken crib. The current warning requirement does not address these use patterns. CPSC also is aware of nonfatal incidents involving climbing or climb-outs, which the current warning requirement does not address explicitly. [The Commission seeks comment on whether incidents of climbing or climb-out have resulted from a crib bumper or liner installed in a crib.](#)

In addition, the specified labeling and warning-format requirements are not consistent with the recommendations of the ASTM Ad Hoc Language task group. ASTM juvenile products standards have begun adopting these “Ad Hoc” recommendations since 2016 to increase the consistency of on-product warning design among juvenile products, and to address numerous warning format issues related to capturing consumer attention, improving readability, and increasing hazard perception and avoidance behavior.

On the basis of the issues identified above, the Commission proposes to replace the ASTM F1917–12 warning requirements to produce the following warning, in terms of content and general format:

⚠️ WARNING

To reduce the risk of **SUFFOCATION**:

- **Keep tight against side of crib.** Do not use if product is loose or sags down toward sleeping surface.
- **Never put pillows or anything else in crib** that could trap baby against this product.
- **Only use in a crib without broken parts or missing slats.** This product will not fix a broken crib or prevent baby from falling out. **Never use in a toddler bed or bassinet.**

To help prevent **ENTANGLEMENT** or **STRANGULATION**, position ties to outside of crib and secure tightly.

Remove this product when baby can pull to a stand using crib side (starting about 6 months). Older babies can use product to climb out of crib.

Because crib bumper ties or other attachment means up to 7 inches long do not pose a strangulation hazard, the Commission proposes requiring the warning statement about entanglement and strangulation only for those bumpers with attachment means exceeding 7 inches in length.¹⁷ The Commission seeks comment on whether to require the last two sentences about removal of the product and climbing out.

a. *Warning Placement*

ASTM F1917–12 requires the warnings for crib bumpers to be “conspicuous,” but does not define this term. Numerous ASTM juvenile product standards require warnings to be “conspicuous,” and they define this term in a way that enables one to assess conformance, typically by stating when the warning must be visible. Thus, to clarify the required placement of the warning on the product, the proposed rule includes a definition of “conspicuous” that is consistent with the definition used in many other ASTM juvenile product standards.

¹⁷ ASTM F1917–12 specifies that bumper ties cannot be longer than 9 inches, and staff recommends that the proposed rule apply this limit to all attachment means.

b. *Warning Permanence*

ASTM F1917–12 requires the warnings for crib bumpers to be “permanent”; however, the standard neither defines “permanent” nor specifies how one would assess conformance to this requirement. Thus, the proposed rule includes requirements for warning permanence that are consistent with similar requirements in other ASTM juvenile products standards. The Commission proposes to require that warnings that are attached to the fabric with seams must remain in contact around the entire perimeter of the warning. This requirement is intended to avoid so called “free-hanging” labels, which can be removed easily.

c. *Additional Crib Bumper Markings*

The proposed rule would require permanent markings on the crib bumper that indicate which portions of the bumper are intended for the long and short sides of the crib, except for those crib bumpers intended for circular cribs. This proposed requirement would reduce the likelihood of consumers installing the bumper incorrectly, and thus will reduce the potential for loose or sagging bumpers. CPSC is aware of fatal incidents involving sagging bumpers, and consumers have reported concerns about installation difficulties and poor bumper fit.

d. *Instructional Literature*

ASTM F1917 – 12 does not include requirements for instructional literature to accompany crib bumpers. Numerous ASTM juvenile product standards require manufacturers to provide instructions with the product. Given the importance of proper bumper installation, the Commission concludes that instructional literature regarding installation is essential to adequately address the risk of injury and death associated with bumpers. In addition, the ASTM Ad Hoc Language task group has published recommended requirements for instructional literature and for the formatting of warnings in instructional literature. Thus, the proposed rule

includes requirements for instructional literature, largely based on the Ad Hoc Language recommended requirements.

F. Commission Direction Pertaining to Crib Bumpers

In the FY 2017 Operating Plan, the Commission stated that in developing a proposed standard, CPSC staff shall, at a minimum:

- “develop a performance requirement and test method to show that a crib bumper is firm enough not to conform to the face of an infant, based on known anthropometric parameters;”
- “develop a performance requirement and test method based on known infant inhalation and exhalation requirements and anthropometric parameters to demonstrate that a crib bumper matches or exceeds the airflow characteristics of mesh or mesh-like materials, taking into account the safety of infants with compromised breathing;” and
- “compose warnings and instructions on the product that explain all of the types of cribs on which the product can and cannot be installed, clear advice about how to install the product and at what age of the child to stop using the product.”

1. Firmness

CPSC staff performed work to develop an anthropometry-based probe. However, the rigidity of the probe's cone-shaped protrusion does not necessarily represent the highly flexible cartilage in young infants' noses, and therefore, might not account for the potential of the nose to compress and close the nostrils when pressure is applied. In addition, in performing preliminary testing of crib bumper samples using the anthropometry-based probe, staff was unable to establish a clear pass-fail criterion. As a result, staff is uncertain whether the probe would accurately measure or relate to the risk of suffocation. Consequently, staff's recommended

firmness is not based on anthropometric parameters. Thus, the Commission is proposing adding a firmness requirement to ASTM's requirements, but the proposed requirement is not based on anthropometric parameters.

2. Airflow

The current ASTM voluntary standard for crib bumpers does not include an airflow-related performance requirement. CPSC staff developed a test method for assessing the airflow of crib bumpers that is based on British standard BS 4578:1970, *Specification for Methods of Test for Hardness of, and for Air Flow Through, Infant Pillows*, and British standard BS 1877-8:1974, *Specification for Domestic bedding -- Part 8: Pillows and bolsters for domestic use (excluding cellular rubber pillows and bolsters)*. Staff modified the test method to use a “breathing” rate that is physiologically representative of a sleeping 3-month old infant by using a 2 L/min airflow. Although staff's test could be used to distinguish mesh liners from most padded crib bumpers, as discussed more fully in the briefing package, CPSC staff was unable to conclude that the requirement would reduce the risk of injury associated with crib bumpers. Thus, the ~~Commission-CPSC staff didis~~ not proposing-recommend an airflow requirement for crib bumpers.

However on January 22, 2020, the Commission held an all-day public hearing regarding the draft NPR and the risks associated with crib bumpers. At the hearing, the Commission heard testimony that millions of mesh crib liners have been sold over almost two decades without known associated fatalities. Moreover, CPSC staff has identified at least four infant deaths where the victim's face was reported to be in contact with a bumper, and determined that the death likely could have been prevented had the bumper been replaced with a mesh liner or vertical bumper. Given the testimony submitted at the January 2020 hearing about the lack of

fatalities associated with mesh crib liners and the fact that airflow tests can differentiate mesh from traditional padded bumpers, the Commission is proposing an airflow performance requirement and test method based on *British Standard BS 4578:1970, Test for Hardness of and for Air Flow Through Infant Pillows*, with modifications. The Commission believes this additional requirement will further reduce the risk of injury associated with crib bumpers. The Commission seeks comment on whether alternative test methods, such as *ASTM D737-18, Standard Test Method for Air Permeability of Textile Fabrics*, can be correlated with results from the British Standard, as modified, and whether adopting an alternative test method offers benefits.

3. Warnings and Instructions

CPSC staff addressed the Commission's request related to warnings and instructions by recommending the following revisions to ASTM F1917-12 for the proposed rule in the staff briefing package:

- New warning statements about only using crib bumpers in unbroken, full-size cribs, and not using bumpers in toddler beds or bassinets;
- More explicit descriptions of how the bumper should fit when properly installed; and
- More details about when and why consumers should remove crib bumpers from a crib.

As discussed in Section VII.E of this preamble, the proposed rule includes these modifications to ASTM F1917-12.

VIII. Proposed Standard for Crib Bumpers

The Commission proposes to incorporate by reference ASTM F1917-12, *Standard Consumer Safety Performance Specification for Infant Bedding and Related Accessories*, with modifications that would further reduce the risk of injury or death associated with crib bumpers.

The proposed modifications are discussed in detail in the Section VII of this preamble and are summarized below:

- Add a “crib bumper/liner” definition.
- Revise the crib bumper thickness requirement to apply to all crib bumpers and liners, and revise the test method by adding a minimum rate at which the bumper must pass through the test fixture and a surface finish requirement of 1.6 Ra for the test fixture.
- Add a crib bumper firmness requirement and test method.
- Add a crib bumper airflow requirement and test method.
- Replace the existing requirement for crib bumpers to be capable of being secured at certain locations with a new crib bumper attachment requirement and test method.
- Revise the strength requirement for crib bumper ties to apply to all attachment means, and add new strength requirements and test methods for decorative components and seams.
- Revise the crib bumper warning content, format, and placement requirements; add warning permanence requirements and test methods; and add a requirement for additional crib bumper markings.
- Add crib bumper instructional literature requirements.

Vertical Bumpers

At the hearing in January 2020, the Commission heard testimony that vertical bumpers, or slat covers, have been sold since 2008 without fatalities and have been used by consumers caring for children with special needs. Furthermore, vertical bumpers have been exempted from some state regulations addressing crib bumpers. Consequently, the Commission also seeks

comment on reports of any incidents or injuries associated with vertical bumpers; the recommended user population, market size and expected, useful lifespan of vertical bumpers; what design characteristics of vertical bumpers are critical for safety, such as shape, thickness, fill materials, and attachment means; whether there are any requirements in this proposal from which vertical bumpers should be exempt and why; and whether any test methods need to be modified for testing vertical bumpers.

IX. Proposed Amendment to 16 CFR part 1112 to Include NOR for Bumpers

The CPSA establishes certain requirements for product certification and testing. Products subject to a consumer product safety rule under the CPSA, or to a similar rule, ban, standard or regulation under any other act enforced by the Commission, must be certified as complying with all applicable CPSC-enforced requirements. 15 U.S.C. 2063(a). Certification of children's products subject to a children's product safety rule must be based on testing conducted by a CPSC-accepted third party conformity assessment body. *Id.* 2063(a)(2). The Commission must publish an NOR for the accreditation of third party conformity assessment bodies to assess conformity with a children's product safety rule to which a children's product is subject. *Id.* 2063(a)(3). Thus, the proposed rule for 16 CFR part 1240, *Safety Standard for Crib Bumpers/Liners*, if issued as a final rule, would be a children's product safety rule that requires the issuance of an NOR.

The Commission published a final rule, *Requirements Pertaining to Third Party Conformity Assessment Bodies*, 78 FR 15836 (March 12, 2013), codified at 16 CFR part 1112 ("part 1112") and effective on June 10, 2013, which establishes requirements for accreditation of third party conformity assessment bodies to test for conformity with a children's product safety

rule in accordance with section 14(a)(2) of the CPSA. Part 1112 also codifies all of the NORs the Commission issued previously.

All new NORs for new children's product safety rules, such as the crib bumper/liner standard, require an amendment to part 1112. To meet the requirement that the Commission issue an NOR for the crib bumper/liner standard, as part of this NPR, the Commission proposes to amend the existing rule that codifies the list of all NORs issued by the Commission to add crib bumpers/liners to the list of children's product safety rules for which the CPSC has issued an NOR.

Test laboratories applying for acceptance as a CPSC-accepted third party conformity assessment body to test to the new standard for crib bumpers/liners would be required to meet the third party conformity assessment body accreditation requirements in part 1112. When a laboratory meets the requirements as a CPSC-accepted third party conformity assessment body, the laboratory can apply to the CPSC to have 16 CFR part 1240, *Safety Standard for Crib Bumpers/Liners*, included in the laboratory's scope of accreditation of CPSC safety rules listed for the laboratory on the CPSC website at: www.cpsc.gov/labsearch.

X. Proposed Amendment to Definitions in Consumer Registration Rule

The statutory definition of "durable infant or toddler product" in section 104(f) applies to all of section 104 of the CPSIA. In addition to requiring the Commission to issue safety standards for durable infant or toddler products, section 104 of the CPSIA also directs the Commission to issue a rule requiring that manufacturers of durable infant or toddler products establish a program for consumer registration of those products. 15 U.S.C. 2056a(d).

Section 104(f) of the CPSIA defines the term "durable infant or toddler product" as "a durable product intended for use, or that may be reasonably expected to be used, by children

under the age of 5 years”; and lists examples of 12 such product categories. The examples do not include crib bumpers.

(f) DEFINITION OF DURABLE INFANT OR TODDLER PRODUCT. As used in this section, the term “durable infant or toddler product” –

(1) means a durable product intended for use, or that may be reasonably expected to be used, by children under the age of 5 years; and

(2) includes –

(A) full-size cribs and non-full-size cribs;

(B) toddler beds;

(C) high chairs, booster chairs, and hook-on-chairs;

(D) bath seats;

(E) gates and other enclosures for confining a child;

(F) play yards;

(G) stationary activity centers;

(H) infant carriers;

(I) strollers;

(J) walkers;

(K) swings; and

(L) bassinets and cradles.

Id. 2056a(f).

In 2009, the Commission issued a rule implementing the consumer registration requirement. 16 CFR part 1130. As the CPSIA directs, the consumer registration rule requires each manufacturer of a durable infant or toddler product to: provide a postage-paid consumer

registration form with each product; keep records of consumers who register their products with the manufacturer; and permanently place the manufacturer's name and certain other identifying information on the product. When the Commission issued the consumer registration rule, the Commission identified six additional products as "durable infant or toddler products":

- children's folding chairs;
- changing tables;
- infant bouncers;
- infant bathtubs;
- bed rails; and
- infant slings.

16 CFR 1130.2. The Commission stated that the specified statutory categories were not exclusive, but that the Commission should explicitly identify the product categories that are covered. The preamble to the 2009 final consumer registration rule states: "Because the statute has a broad definition of a durable infant or toddler product but also includes 12 specific product categories, additional items can and should be included in the definition, but should also be specifically listed in the rule." 74 FR 68668, 68669 (Dec. 29, 2009).

On October 19, 2016, the Commission voted to consider crib bumpers to be durable infant or toddler products and directed staff to develop a notice of proposed regulation for crib bumpers under section 104 of the Consumer Product Safety Improvement Act. In this document, the Commission proposes to amend the definition of "durable infant or toddler product" in the consumer registration rule to clarify that crib bumpers fall within the term "durable infant or toddler product" as used in the product registration card rule and section 104 of the CPSIA. Crib bumpers are intended for, and reasonably expected to be used by, children under age 5. They are

used with cribs, a product the CPSIA identifies as an example of a durable infant or toddler product. Like the other product categories, crib bumpers are covered by voluntary standard.

XI. Incorporation by Reference

The Commission proposes to incorporate by reference ASTM F1917-12, with modifications to the standard, discussed above. The Office of the Federal Register (OFR) has regulations concerning incorporation by reference. 1 CFR part 51. For a proposed rule, agencies must discuss in the preamble of the NPR ways that the materials the agency proposes to incorporate by reference are reasonably available to interested persons or how the agency worked to make the materials reasonably available. In addition, the preamble of the proposed rule must summarize the material. 1 CFR 51.5(a).

In accordance with the OFR's requirements, section VI of this preamble summarizes the provisions of ASTM F1917-12 that the Commission proposes to incorporate by reference. ASTM F1917-12 is copyrighted. By permission of ASTM, the standard can be viewed as a read-only document during the comment period on this NPR, at: <http://www.astm.org/cpsc.htm>. Interested persons may also purchase a copy of ASTM F1917-12 from ASTM International, 100 Bar Harbor Drive, P.O. Box 0700, West Conshohocken, PA 19428; <http://www.astm.org/cpsc.htm>. One may also inspect a copy at CPSC's Division of the Secretariat, U.S. Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, MD 20814, telephone 301-504-7923.

XII. Effective Date

The Administrative Procedure Act (APA) generally requires that the effective date of a rule be at least 30 days after publication of the final rule. 5 U.S.C. 553(d). The Commission proposes to incorporate by reference ASTM F1917-12, with modifications. To allow time for

bumper manufacturers to bring their products into compliance after a final rule is issued, the Commission proposes that the rule would take effect 6 months after publication of the final rule in the Federal Register. The rule would apply to products manufactured or imported on or after that date. Barring evidence to the contrary, the Commission generally considers 6 months to be sufficient time for suppliers to come into compliance with a new standard. Six months is also the period that JPMA typically allows for products in its certification program to shift to a new standard once that new standard is published. CPSC invites comments, particularly from small businesses, regarding the amount of time they will need to come into compliance. We also propose a 6-month effective date for the amendments to parts 1112 and 1130.

XIII. Regulatory Flexibility Act

A. Introduction

Under Section 603 of the RFA, if a notice of proposed rulemaking is required, agencies must prepare an initial regulatory flexibility analysis (IRFA) and make it available to the public for comment when the general notice of proposed rulemaking is published, unless the head of the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. The IRFA must describe the impact of the proposed rule on small entities and identify significant alternatives that could accomplish the statutory objective while minimizing any significant economic impact. Specifically, the IRFA must contain:

- a description of the reasons why action by the agency is being considered;
- a succinct statement of the objectives of, and legal basis for, the proposed rule;
- a description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply;

- a description of the projected reporting, recordkeeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities subject to the requirements and the type of professional skills necessary for the preparation of reports or records; and
- an identification, to the extent possible, of all relevant federal rules which may duplicate, overlap, or conflict with the proposed rule.

B. Market Description

Crib bumpers range in price from \$12 to \$500, and also are sold in bedding sets, which can range in price from \$80 to \$1,200. Manufacturers typically produce only a few models with differences in color, art design, cover material, and filling material being the primary identifying factors. Those products at the higher end of the price range typically are decorated with detailed paint or woven art.

C. Objectives and Legal Basis for Proposed Rule

The objective of this proposed rule is to reduce the risk of injury and death associated with crib bumpers. CPSC staff identified 113 fatalities from 1990 to March 2019 and 113 nonfatal incidents from 2008 to 2019 associated with crib bumpers.

The legal basis of the proposed rule is Section 104 of the CPSIA, which requires the CPSC to examine and assess the effectiveness of any voluntary consumer product safety standards for durable infant or toddler products, and promulgate consumer product safety standards that are substantially the same as the voluntary standards or more stringent than the voluntary standards, if the Commission determines that more stringent requirements would further reduce the risk of injury associated with the products.

D. Crib Bumpers in Use

Based on information from the 2013 CPSC Durable Nursery Products Exposure Survey of U.S. households with children under 6 years old:

- An estimated 9.2 million cribs were in use in households with young children in 2013. This represented about 73 percent of the estimated 12.6 million total cribs owned by households (i.e., about 3.4 million cribs were owned, but not in use).
- Among the 9.2 million cribs in use, an estimated 5.3 million were equipped with bumpers. This represents about 55 percent of the 9.9 million total bumpers owned by households (i.e., about 4.5 million bumpers were owned, but not in use).

In addition to the products in use in households with young children, as estimated from the survey, cribs and bumpers are probably in use in some households without young children (e.g., unsurveyed homes of older adults providing care for grandchildren). Additionally, the survey did not cover child care facilities. One childcare industry group's 2018 directory lists more than 115,000 licensed childcare centers and more than 137,000 home daycare providers, some of which may use cribs and bumpers. Furthermore, the survey did not cover hotels or other commercial lodging establishments. The U.S. Bureau of Labor Statistics (BLS) reports that there are about 70,000 lodging establishments in the accommodation industry sector, North American Industry Classification System (NAICS) code 721. Based on the Commission's contacts with childcare and lodging facilities, bumper usage in such establishments is probably low.

E. Small Entities to Which the Proposed Rule Would Apply

Manufacturers of crib bumpers are typically categorized under the NAICS category 314120 (Curtain and Linen Mills) but may also fall under code 314999 (All Other Miscellaneous Textile Product Mills). Curtain and linen mills are considered small if they have fewer than 750 employees; miscellaneous textile product mills are considered small if they have fewer than 500

employees.¹⁸ Importers of crib bumpers are typically categorized under NAICS code 423220 (Home Furnishing Merchant Wholesalers) and would be considered small if they have fewer than 100 employees.

Aside from small handcrafters selling products on electronic commerce websites, staff identified 46 manufacturers, distributors and importers. A total of 33 of these 46 firms meet the SBA criteria for small businesses.^{19,20,21} A majority of the 46 firms have under 25 employees with 8 firms meeting the criteria of a large firm. Most of the firms are domestic manufacturers (28), with domestic importers (7) and domestic distributors (6) accounting for a small minority. The lowest annual revenue among the 46 manufacturers, distributors, and importers was \$135,000.

A large number of producers supply crib bumpers to the U.S. market via electronic commerce websites such as Etsy. CPSC staff has identified 174 of these firms of which 86 are importers.^{22,23} CPSC staff considered these firms as small manufacturers/importers because many are one-person firms providing handcrafted nursery products with large varieties in materials and designs. These firms would be considered small by SBA size standards. The revenues for 81 of the small importers is most likely below \$25,000 based estimates from the Nonemployer Statistics from the U.S. Bureau of the Census. Of the five remaining small importers, one has annual revenue between \$25,000 and \$250,000 and the revenue of the other four is between \$250,000 and \$500,000.

¹⁸ The size guidelines are established by the U.S. Small Business Administration (SBA).

¹⁹ Based on size and revenue data from Reference USA and firm financial reports, websites, and press releases.

²⁰ The Commission could not determine the status of five firms, but they are most likely small.

²¹ Eleven of the forty-six firms identified supply mesh liner or similar mesh type products.

²² Based on a review of electronic commerce websites that specialize in handmade products.

²³ Approximately 90 percent of these small handcrafters provide traditional crib bumpers with mesh liner handcrafters accounting for only 4.6 percent.

F. Requirements of the Proposed Rule

The proposed rule would incorporate by reference ASTM F1917–12 with modifications that CPSC believes may further reduce the risk of injury. The proposed rule would also make some changes to the definitions and terminology used in the standard to better clarify the requirements. If promulgated by the Commission, the proposed rule would, among other things:

- Establish a crib bumper firmness test that is partly adopted from the Australian/New Zealand Standard (AS/NZS 8811.1) for testing infant products. The test involves using a test fixture to measure firmness of the crib bumper at multiple points along its length.
- Establish maximum lengths for the attachments means and decorative components on bumper pads;
- Establish that the requirements for the length of attachment means and decorative components shall apply both before and after testing;
- Prohibit the use of monofilament thread;
- Establish a minimum thickness for accessible, unsupported vinyl material;
- Establish a test for limiting the maximum thickness of all crib bumpers;
- Establish a crib bumper airflow requirement and test method;
- Establish minimum strength requirements for attachment means and decorative components;
- Establish a strength requirement for bumper seams;
- Require crib bumpers to have labels identifying the manufacturer, distributor, or seller;
- Establish requirements for appropriate warning labels on crib bumpers;
- Establish requirements for the permanence of the warning labels;

- Require instructional literature to be provided with crib bumpers detailing the proper installation methods and the hazards associated with the crib bumpers;
- Establish a test to ensure the bumper remains securely attached to the crib side. The test involves inserting a probe between the crib bumper and the crib slat.

In addition to the requirements outlined above, the proposed rule would modify or clarify some of the terms and definitions used in ASTM F1917–12. For example, the proposed rule would consistently refer to “crib bumpers/liners” and not “bumper pads,” “bumper guards,” and similar terms that are sometimes used in ASTM F1917– 2. The proposed rule would also clarify the definitions of terms such as “crib bumper/liner,” and “conspicuous.”

G. Impact of Proposed Rule on Small Manufacturers

If the proposal is finalized, manufacturers and importers of crib bumpers would be responsible for ensuring that their products comply with the rule. If their crib bumpers do not comply with the requirements, the manufacturers or importers will need to either modify the products or cease their manufacture or importation. Additionally, as required by section 14 of the CPSIA and its implementing regulations, manufacturers and importers of crib bumpers would be required to certify that their crib bumpers comply with the requirements of the proposed rule based on the results of third party testing by an accredited conformity assessment body.

In 2018, CPSC collected a sample of crib bumpers to test them for compliance with the proposed rule. Although not a probability sample, CPSC tried to collect a wide variety of crib bumpers that included most types of crib bumpers that are available in the market place, including crib bumpers from the very small manufacturers or hand crafters. Although most of these crib bumpers would comply with many of the provisions of the proposed rule, the testing

found that most models (7 out of 11 models tested) would not pass the proposed firmness test. Additionally, many models would need to modify their warning labels' content, placement, and formatting to comply with the proposed rule. An air flow requirement that differentiates mesh liners from padded crib bumpers could effectively result in removing most padded crib bumpers from the market. The total size of the impact is dependent on the padded crib bumper product(s) share of revenue or consumer preferences. Staff identified one firm whose sole product is a crib bumper but it is unclear if this product would meet an air flow requirement due to its design. Some manufacturers of padded crib bumpers may be able to remove the padding or change the design of their products to meet the requirement.

H. Costs Associated with Modifying Products to Comply with the Proposed Rule

Modifying most types of crib bumper designs to conform to the firmness requirement could be as simple as removing some of the filling material used in the bumper pad or using additional stitching to compact the loose fill material. The cost of making such modifications should not be significant. However, the braided type of crib bumper would likely fail the firmness requirement because the results depended upon where on the product it was tested. It is unclear if braided bumpers could be modified to meet this requirement. Moreover, the braided crib bumpers CPSC examined did not have any means by which they could be attached to the crib, which is also a requirement of the proposed rule.²⁴ This implies that the proposed rule may result in the removal of braided crib bumpers from commerce. All firms identified as supplying braided bumpers are importers and not domestic manufacturers and represent approximately 6 percent of the identified importers.²⁵ An airflow requirement that differentiates mesh liners from

²⁴ Some braided crib bumper manufacturers have begun modifying their product to include a means to attach the product to the side of a crib as of May 2019.

²⁵ Currently total annual revenue and unit sales of braided bumpers is unknown but total annual revenue is expected to be under \$150,000 as braided bumper importers appear to be firms with 1 to 2 employees.

padding crib bumpers could effectively result in removing most padded crib bumpers from the market. Some manufacturers of padded crib bumpers may be able to remove the padding or change the design of their products to meet the requirement.

Generally, the costs associated with providing instructional materials are low on a per unit basis. Many firms already provide instructions with their products, but they may have to change the content or formatting of the instructions to comply. Likewise, the cost of warning labels are generally low, especially if some warning labels are already present and the product itself does not have to be modified to accommodate new labels.

I. Third Party Testing Costs

The proposed rule would require all manufacturers and importers of crib bumpers to meet third party testing requirements under section 14 of the CPSA and 16 CFR part 1107.²⁶ The Commission estimates that testing costs associated with testing to ASTM F1917–12 would be between ~~\$600-750~~ and ~~\$900-1,250~~ per sample tested.²⁷ As the average number of crib bumper models per firm is two, this equates to a cost of at least ~~\$1,200~~1,500 to ~~\$1,800~~2,500 per firm, if no more than one sample per model to provide the required “high degree of assurance” that the model complies with the requirements. Under 16 CFR part 1107, manufacturers and importers will need to recertify their crib bumpers at least annually, unless the firm has also established a formal reasonable testing program, in which case they will have to recertify their crib bumpers at least every two years. Currently 21 of 207 small crib bumper manufacturers and importers are members of the JPMA, but it is unclear if any crib bumpers are certified to ASTM F1917–12. However, some of these firms produce other products that are already subject to other children’s

²⁶ Third party testing will include any physical and mechanical test requirements specified in the final crib bumper rule.

²⁷ Based on quotes from testing laboratories that currently test children’s products to ASTM standards.

product safety rules and, therefore, familiar with these requirements. Many of the small firms that are not members of JPMA or that do not produce other products subject to children's product safety rules may be unfamiliar with the third party testing requirements.

As noted, for a typical manufacturer or importer with two crib bumper models, the cost of third party testing will be at least ~~\$1,200~~1,500 to ~~\$1,800~~2,500 to test and certify both models and this cost will be incurred at least once every other year. Generally, we consider impacts that exceed one percent of revenue to be potentially significant. As discussed above there are a substantial number of very small firms that either hand craft or import crib bumpers that are often sold through websites, such as Etsy.com, and more than three quarters of these very small firms are estimated to have annual revenues of less than \$25,000. Even if these firms needed to test only one sample of each crib bumper to obtain the "high degree assurance" that the product would meet all the requirements of the rule, the cost of the third party testing would be at least 5 percent of one year's revenue and possibly more if their revenue was much less than \$25,000. This impact would be significant. Many of these firms could be expected to stop supplying crib bumpers to the U.S. market because they are not able to increase their prices to cover the testing costs.

The cost of the third party testing associated with the proposed rule could also be significant for small firms that are not among the very small firms discussed above. CPSC identified 13 small manufacturers and one importer of crib bumpers that have annual revenues between \$25,000 and \$250,000. If the third party testing costs are between ~~\$1,200~~1,500 and ~~1,800~~2,500, the cost could exceed one percent of the annual revenue of several of these firms as well and could be considered significant.

J. Summary of Impact on Small Manufacturers and Importers

Because a majority of crib bumper firms supply padded crib bumpers, the air flow requirement could have an impact on a substantial number of small firms if they are unable to modify their products.²⁸ Staff identified a total of 207 small manufacturers and importers that an air flow requirement could impact. The size of the impact would depend upon factors such as the cost to modify the products, the importance of padded crib bumpers to the firm in terms of revenue or consumer preference for a padded crib bumper over a thin mesh liner. Nearly all firms supplying the U.S. market with crib bumpers also supply other infant products including, but not limited to crib mattresses, crib sheets, and blankets.²⁹ CPSC expects that most crib bumpers currently on the market would comply with the other requirements of the proposed rule or could comply with minimal cost and effort by making modifications, such as modifying the language in the instructional material that already comes with the products, removing loose fill material and or using additional stitching. However, braided bumpers would likely fail the test requirements in the proposed rule and would be removed from the market. This could significantly impact the firms that supply braided crib bumpers. As noted above, the cost of the third party testing that manufacturers and importers would require in order to certify compliance with the rule could be significant for a substantial number of small firms as the third party testing costs could easily exceed one percent of annual revenues for many of the small suppliers. For small handcrafter firms that offer crib bumpers through channels such as Etsy.com the third party testing costs will likely exceed 5 percent of their total annual revenue.

K. Other Federal Rules Which May Duplicate, Overlap, or Conflict with the Proposed Rule

²⁸ Approximately 90 percent of small handcrafter firms provide traditional padded crib bumpers.

²⁹ Staff identified one firm that only produces crib bumper products.

CPSC has not identified any other federal rules that duplicate, overlap, or conflict with the proposed rule.

L. Alternatives Considered to Reduce the Impact on Small Entities

1. Adopt ASTM F1917-12 without Modification. The Commission could propose to incorporate by reference ASTM F1917– 12 without any modifications and direct staff to work with ASTM to improve warning labels, test methods, and the firmness of crib bumpers in a future revision of the voluntary standard. This alternative could reduce the impact of the rule on small businesses, but the reduction would not be expected to be very significant. As discussed in the analysis above, modifying crib bumpers to comply with the firmness requirement could be accomplished by reducing the amount of filler material or by incorporating additional stitching to compress the material. These modifications are not expected to be costly. Likewise the costs to modify or add warning labels or instructional material are expected to be low. The most significant impacts of the proposed rule would be associated with the third party testing requirements under section 14 of the CPSA and 16 CFR part 1107, which would be required once the proposed rule became a mandatory children’s product safety rule. These costs, however, would be largely unaffected by this alternative.

2. Small Batch Exemption. Given the number of small crib bumper manufacturers using websites like Etsy, exempting small batch manufacturers from the testing requirements proposed under the rule might seem to be an alternative. However, under Section 14(d)(4)(C)(ii) of the CPSA, the Commission cannot “provide any alternative requirements or exemption” from third party testing for “durable infant or toddler products,” as defined in section 104(f) of the CPSIA. Consequently, the Commission is not proposing a small batch exemption.

3. Reduce the Frequency of Periodic Testing for Very Small Crib Bumper Manufacturers.

The Commission could amend 16 C.F.R. part 1107 to reduce the frequency of periodic testing for small home-based businesses that produce crib bumpers. Currently, under the requirements of 16 CFR 1107.21, these firms need to conduct periodic third party tests every year, or, if they have a formal production testing plan, every 2 years. The testing costs associated with third party periodic testing could be substantially reduced if the Commission amended existing regulations to allow small home-based producers of crib bumpers to conduct periodic testing less frequently. One alternative for manufacturers with established production testing plans, would be to require third party periodic testing only after a certain number of units of a product (to be determined at a later time) had been produced, even if it meant that periodic third party tests would be conducted less frequently than every 2 years. The details of this alternative would be determined by the Commission; it might apply to all nursery products, or it might be limited to crib bumpers. However, all home-based firms would still be required to: (1) produce conforming products; (2) conduct the initial certification tests (16 CFR 1107.20); (3) re-certify whenever there is a material change to the product (16 CFR 1107.23); and (4) implement a production testing plan and conduct on going production tests (16 CFR 1107.21(c)).

4. Delay the Effective Date of the Requirements. Typically, the Commission recommends an effective date of 6 months for durable nursery product rules. Six months is generally considered sufficient time for suppliers to come into compliance with a proposed durable infant and toddler product rule, unless there are specific reasons for a longer effective date.

One alternative that could reduce the impact on small firms would be to set an effective date of 12 months. A later effective date could mitigate the effects of the rule on small businesses by delaying the need to conduct third party certification tests and allowing the businesses to spread

the costs of bringing their crib bumpers into conformance over a longer period of time. For businesses that would choose to exit the crib bumper market (rather than produce conforming products), such a delay might also provide them with more time to adjust marketing towards other product offerings, sell inventory or consider alternative business opportunities.

5. Not Issue a Mandatory Standard. Another option available to the Commission that would reduce the burden on small firms is to not adopt a mandatory standard for crib bumpers. This would eliminate the cost impacts described in the previous sections, including those associated with third party testing, and allow the small handcrafter firms to continue operations.

M. Impacts of Test Laboratory Accreditation Requirements on Small Laboratories

In accordance with section 14 of the CPSA, all children's products that are subject to a children's product safety rule must be tested by a third party conformity assessment body that has been accredited by CPSC. These third party conformity assessment bodies test products for compliance with applicable children's product safety rules. Testing laboratories that want to conduct this testing must meet the NOR for third party conformity testing. CPSC has codified NORs in 16 CFR part 1112. The Commission proposes to amend 16 CFR part 1112 to establish an NOR for testing laboratories to test for compliance with the proposed crib bumper standard. This section assesses the impact a proposed amendment would have on small laboratories.

CPSC conducted a final regulatory flexibility analysis (FRFA) when it adopted part 1112. 78 FR 15836 (Mar. 12, 2013). The FRFA concluded that the accreditation requirements would not have a significant adverse impact on a substantial number of small laboratories because no requirements were imposed on laboratories that did not intend to provide third party testing services. The only laboratories CPSC expects to provide such services are laboratories that

anticipated receiving sufficient revenue from the mandated testing to justify accepting the requirements as a business decision.

For the same reasons, including the NOR for crib bumpers in part 1112 would not have a significant impact on small laboratories. Moreover, CPSC expects that only a small number of laboratories would request accreditation to test crib bumpers, based on the number of laboratories that have applied for CPSC accreditation to test other juvenile products. Most laboratories would already have accreditation to test for conformance to other juvenile product standards; accordingly, the only cost would be to add the crib bumper standard to their accreditation. Test laboratories have indicated that this cost is extremely low when they are already accredited for other CPSIA section 104 rules. Therefore, the Commission certifies that the NOR for the crib bumper standard will not have a significant impact on a substantial number of small entities.

XIV. Environmental Considerations

The Commission's regulations address whether the agency must prepare an environmental assessment or an environmental impact statement. Under these regulations, certain categories of CPSC actions normally have "little or no potential for affecting the human environment," and therefore, do not require an environmental assessment or an environmental impact statement. Safety standards providing requirements for products come under this categorical exclusion. 16 CFR 1021.5(c)(1). The proposed rule falls within the categorical exclusion.

XV. Paperwork Reduction Act

This proposed rule contains information collection requirements that are subject to public comment and review by the Office of Management and Budget (OMB) under the Paperwork

Reduction Act of 1995 (44 U.S.C. 3501–3521). In this document, pursuant to 44 U.S.C. 3507(a)(1)(D), we set forth:

- a title for the collection of information;
- a summary of the collection of information;
- a brief description of the need for the information and the proposed use of the information;
- a description of the likely respondents and proposed frequency of response to the collection of information;
- an estimate of the burden that shall result from the collection of information; and
- notice that comments may be submitted to the OMB.

Title: Safety Standard for Crib Bumpers/Liners

Description: The proposed rule would require crib bumpers/liners to comply with ASTM F1917-12, *Standard Consumer Safety Performance Specification for Infant Bedding and Related Accessories*, with several modifications, including modifications to their existing labels and new requirements for the provision of instructional literature. Section 8 of ASTM F1917-12 contains requirements for marking and labeling. Proposed section 9 contains requirements for instructional literature. These requirements fall within the definition of “collection of information,” as defined in 44 U.S.C. 3502(3).

Description of Respondents: Persons who manufacture or import crib bumpers/liners.

Estimated Burden: We estimate the burden of this collection of information as follows:

Table 1 – Estimated Annual Reporting Burden

| Burden Type | Number of Respondents | Frequency of Responses | Total Annual Responses | Hours per Response | Total Burden Hours |
|-------------|-----------------------|------------------------|------------------------|--------------------|--------------------|
| | | | | | |

| | | | | | |
|--------------------------|-----|---|-------|----|--------------|
| Labeling | 220 | 2 | 440 | 1 | 440 |
| Instructional literature | 220 | 2 | 8,800 | 20 | 8,800 |
| TOTAL BURDEN | | | | | 9,240 |

Our estimate is based on the following:

There are 220 known entities supplying crib bumpers/liners to the U.S. market. All 220 firms are assumed to use labels already on both their products and their packaging, but the firms might need to make some modifications to their existing labels. The estimated time required to make these modifications is about 1 hour per model. Each entity supplies an average of two different models of crib bumper/liner; therefore, the estimated burden associated with labels is 1 hour per model \times 220 entities \times 2 models per entity = 440 hours. We estimate the hourly compensation for the time required to create and update labels is \$34.61 (U.S. Bureau of Labor Statistics, “Employer Costs for Employee Compensation,” March 2019, total compensation for all sales and office workers in goods-producing private industries, series id CMU201G000200000D: <http://www.bls.gov/ncs/>). Therefore, the estimated annual cost to industry associated with the labeling requirements is \$15,228.20 (\$34.61 per hour \times 440 hours = \$15,228.20). There are no operating, maintenance, or capital costs associated with the collection. The proposed rule would require instructions to be supplied with the product. Under the OMB’s regulations (5 CFR 1320.3(b)(2)), the time, effort, and financial resources necessary to comply with a collection of information that would be incurred by persons in the “normal course of their

activities” are excluded from a burden estimate, where an agency demonstrates that the disclosure activities required to comply are “usual and customary.” Crib bumpers/liners require installation on an existing crib, which implies instructions for proper use, fit, position on a crib, and cleaning are necessary. Many of the firms already provide some instructional material, but some modifications to existing material may be necessary, and other firms supply little to no instructional information. Therefore, we have assumed that there will be a burden to all firms of modifying/creating instructional literature in this case. Each entity supplies an average of two different models of crib bumper/liner; therefore, the estimated burden associated with instructional literature is 20 hour per model \times 220 entities \times 2 models per entity = 8,800 hours. We estimate the hourly compensation for the time required to create and update instructional material is \$34.61 (U.S. Bureau of Labor Statistics, “Employer Costs for Employee Compensation,” March 2019, total compensation for all sales and office workers in goods-producing private industries, series id CMU201G000200000D: <http://www.bls.gov/ncs/>). Therefore, the estimated annual cost to industry associated with the instructional material requirements is \$304,568 ($\34.61 per hour \times 8,800 hours = \$304,568). There are no operating, maintenance, or capital costs associated with the collection. Not all firms would incur these costs every year, but new firms that enter the market would and the market may be highly fluctuating, particularly for small handcrafters.

Based on this analysis, the proposed standard for crib bumpers/liners would impose a burden to industry of 9,240 hours, at an estimated cost of \$319,796.40 annually.

In compliance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), we have submitted the information collection requirements of this rule to the OMB for review. Interested persons are requested to submit comments regarding information collection by **INSERT DATE**

30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER], to the Office of Information and Regulatory Affairs, OMB (see the ADDRESSES section at the beginning of this notice).

Pursuant to 44 U.S.C. 3506(c)(2)(A), we invite comments on:

- the estimated burden hours required to modify warning labels;
- the estimated burden hours required to modify instruction manuals;
- whether the collection of information is necessary for the proper performance of the CPSC's functions, including whether the information will have practical utility;
- the accuracy of the CPSC's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used;
- ways to enhance the quality, utility, and clarity of the information to be collected;
- ways to reduce the burden of the collection of information on respondents, including the use of automated collection techniques, when appropriate, and other forms of information technology.

XVI. Preemption

Section 26(a) of the CPSA, 15 U.S.C. 2075(a), provides that when a consumer product safety standard is in effect and applies to a product, no state or political subdivision of a state may either establish or continue in effect a standard or regulation that prescribes requirements for the performance, composition, contents, design, finish, construction, packaging, or labeling of such product dealing with the same risk of injury unless the state requirement is identical to the federal standard. Regulations or laws lacking performance or design requirements enacted by a state or a political subdivision of a state are not subject to this section. Section 26(c) of the

CPSA also provides that states or political subdivisions of states may apply to the Commission for an exemption from this preemption under certain circumstances. Section 104(b) of the CPSIA refers to the rules to be issued under that section as “consumer product safety rules.” Therefore, the preemption provision of section 26(a) of the CPSA would apply to a rule issued under section 104.

XVII. Request for Comments

This NPR begins a rulemaking proceeding under section 104(b) of the CPSIA to issue a consumer product safety standard for crib bumpers, to amend part 1112 to add crib bumpers to the list of children’s product safety rules for which the CPSC has issued an NOR, and to amend part 1130 to identify crib bumpers as a durable infant or toddler product subject to CPSC consumer registration requirements. We invite all interested persons to submit comments on any aspect of this proposal. In addition to requests for specific comments elsewhere in this NPR, the Commission requests comments on the proposed effective date, and the costs of compliance with, and testing to, the proposed crib bumper safety standard. Furthermore, the Commission invites comments on the following:

1. Is the 2 inch maximum thickness requirement and the related test method sufficient?
2. With regard to the firmness requirements and related test methods: potential facial conformity test devices and methods, such as mechanical test surrogates; recommendations for a more anthropomorphic test method; the repeatability of the proposed firmness test; the validity of the proposed firmness requirements and related test methods.
3. Is an airflow performance requirement based on the airflow characteristics of typical mesh bumpers protective enough to eliminate risks of suffocation against a crib bumper?

4. What further modifications to the British air flow test method (BS 4578:1970) would enhance the repeatability and validity of the airflow test for crib bumpers?
5. Is there an alternative test method, such as *ASTM D737-18, Standard Test Method for Air Permeability of Textile Fabrics*, that can be correlated with results from British Standard, as modified, and would adoption of this alternative test method offer benefits?
6. If the Commission adopts an airflow performance requirement, what effect will this have on the need for the proposed thickness and firmness tests and will the proposed warnings and instructions need to be modified?
7. Is there evidence that demonstrates that climb-out rates are higher when crib bumpers or mesh liners are installed in a crib, and should the Commission require the new warnings about removal of the product and climbing out?
8. Does having an airflow performance requirement for crib bumpers adversely affect public education about safe sleep best practices?
9. Is there any research into air permeability, breathability, infants' oxygen and carbon dioxide levels, rebreathing, anatomical features, airway openings, respiratory rates and volumes, anthropometry of facial features such as nasal deformation against crib bumpers, effects of exhaled moisture and saliva on the air permeability of fabric and mesh bumpers, patterns of gas dispersal within a crib, or other related topics that the Commission should consider?
10. Are there reports of incidents or injuries associated with vertical bumpers? What is the recommended user population, market size and expected, useful lifespan of vertical bumpers? What design characteristics of vertical bumpers are critical for safety, such as shape, thickness, fill materials, and attachment means? Are there any requirements in this proposal from which

vertical bumpers should be exempt and why? Are there any test methods that need to be modified for testing vertical bumpers?

11. A central purpose of the Consumer Product Safety Act is “to develop uniform safety standards for consumer products and to minimize conflicting State and local regulations.” See 15 U.S.C. § 2051(b)(3). Given this mandate, what should the preemptive effect of any regulation promulgated under this rulemaking be?

12. Should the Commission consider an effective date of 12 months for any regulation promulgated under this rulemaking?

13. Should CPSC consider any other alternatives to reduce the impact on small entities?

14. On October 19, 2016, the Commission voted to initiate rulemaking under section 104 of the Consumer Product Safety Improvement Act (CPSIA) to address the risk of injury or death associated with the use of crib bumpers. Do crib bumpers and liners meet the definition of “durable product?” What are the anticipated legal challenges to pursuing rulemaking under this authority?

15. Many outside groups have advocated for an outright ban of crib bumpers and liners. Does CPSC have jurisdiction under Section 104 to ban this product category? If not, may CPSC promulgate a rule declaring such products a banned hazardous product under Section 8 of the CPSIA, 15 U.S.C. § 2057?

During the comment period, the ASTM F1917-12 *Standard Consumer Safety Performance Specification for Infant Bedding and Related Accessories*, is available as a read-only document at: <http://www.astm.org/cpsc.htm>.

Comments should be submitted in accordance with the instructions in the **ADDRESSES** section at the beginning of this notice.

List of Subjects

16 CFR Part 1112

Administrative practice and procedure, Audit, Consumer protection, Reporting and recordkeeping requirements, Third party conformity assessment body.

16 CFR Part 1130

Administrative practice and procedure, Business and industry, Consumer protection, Reporting and recordkeeping requirements.

16 CFR Part 1240

Consumer protection, Imports, Incorporation by reference, Infants and children, Labeling, Law enforcement, and Toys.

For the reasons discussed in the preamble, the Commission proposes to amend 16 CFR Chapter II as follows:

PART 1112—REQUIREMENTS PERTAINING TO THIRD PARTY CONFORMITY ASSESSMENT BODIES

- 1. The authority citation for part 1112 continues to read as follows:

Authority: 15 U.S.C. 2063; Pub. L. 110-314, section 3, 122 Stat. 3016, 3017 (2008).

- 2. Amend § 1112.15 by adding paragraph (b)(50) to read as follows:

§ 1112.15 When can a third party conformity assessment body apply for CPSC acceptance for a particular CPSC rule and/or test method?

* * * * *

(b) * * *

(50) 16 CFR part 1240, Safety Standard for Crib Bumpers/Liners.

* * * * *

3. The authority citation for part 1130 continues to read as follows:

Authority: 15 U.S.C. 2056a, 2065(b).

4. Amend § 1130.2 by revising paragraph (a)(12) to read as follows:

**PART 1130—REQUIREMENTS FOR CONSUMER REGISTRATION OF DURABLE
INFANT OR TODDLER PRODUCTS**

§ 1130.2 Definitions.

* * * * *

(a) * * *

(19) Crib bumpers/liners.

* * * * *

5. Add part 1240 to read as follows:

PART 1240-SAFETY STANDARD FOR CRIB BUMPERS/LINERS

Sec.

1240.1 Scope.

1240.2 Requirements for crib bumpers/liners.

Authority: Sec. 104, Pub. L. 110-314, 122 Stat. 3016 (August 14, 2008); Sec. 3, Pub. L. 112-28, 125 Stat. 273 (August 12, 2011).

§ 1240.1 Scope.

This part establishes a consumer product safety standard for crib bumpers/liners.

§ 1240.2 Requirements for crib bumpers/liners.

(a) Except as provided in paragraph (b) of this section, each crib bumper/liner must comply with all applicable provisions of ASTM F1917-12, *Standard Consumer Safety Performance Specification for Infant Bedding and Related Accessories*, approved on July 1,

2012. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy from ASTM International, 100 Bar Harbor Drive, P.O. Box 0700, West Conshohocken, PA 19428; <http://www.astm.org/cpsc.htm>. You may inspect a copy at the Division of the Secretariat, U.S. Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, MD 20814, telephone 301-504-7923, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email, fedreg.legal@nara.gov , or go to:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(b) Comply with ASTM F1917-12 with the following additions or exclusions:

(1) Instead of complying with section 3.1.1 of ASTM F1917-12, comply with the following:

(i) 3.1.1 *attachment means. n*—flexible ribbons, strings, hook and loop straps, ties, and similar devices attached to a crib bumper/liner for the purpose of attaching to a crib.

(ii) [Reserved]

(2) Instead of complying with section 3.1.4 of ASTM F1917-12, comply with the following:

(i) 3.1.4 *infant bedding and related accessories, n*—includes the following items intended for use in a nursery: fitted sheets, blankets, dust ruffles, covers and drapes for canopies, pillows, mattress covers, diaper stackers, fabric wall hangings, crib bumpers/liners, and comforters.

(3) In addition to complying with section 3.1.6 of ASTM F1917-12, comply with the following:

(i) 3.1.7 *conspicuous, adj*—visible, when the product is in all manufacturer’s recommended use positions, to a person standing near the product at any one position around the product, but not necessarily visible from all positions.

(ii) 3.1.8 *crib bumper/liner, n*—any product intended to be placed against any portion of the interior perimeter of a crib, and that reduces or eliminates an infant’s access to the crib sides, slats, spindles, or the spaces between these components.

Discussion—Such products are commonly referred to as crib bumpers, crib liners, mesh liners, bumper pads, bumper guards, and headboard panels, but do not include products intended to cover only the top horizontal rail of a crib.

(4) Instead of complying with section 5.1 of ASTM F1917-12, comply with the following:

(i) 5.1 Attachment means on crib bumpers/liners shall not exceed 9.0 in. (230 mm) both before and after 7.4.1 testing when measured in accordance with 7.1.

(ii) [Reserved]

(5) Instead of complying with section 5.2 of ASTM F1917-12, comply with the following:

(i) 5.2 Decorative components as defined in 3.1.2 shall not exceed 7 in. (180 mm) when measured in accordance with 7.1. If any decorative components can tangle to form a loop, then the perimeter of the loop shall not exceed 14 in. (360 mm) when tested in accordance with 7.1.

These requirements shall apply both before and after 7.4.3 testing.

(ii) [Reserved]

(6) Instead of complying with section 5.4 of ASTM F1917-12, comply with the following:

(i) 5.4 *Labeling*—Warning labels (whether paper or non-paper) shall be permanent when tested in accordance with 7.5.

(ii) 5.4.1 Warning statements applied directly onto the surface of the product by hot stamping, heat transfer, printing, wood burning, and so forth shall be permanent when tested in accordance with 7.6.

(ii) 5.4.2 Non-paper labels shall not liberate small parts when tested in accordance with 7.6.

(iii) 5.4.3 Crib bumper/liner warning labels that are attached to the fabric with seams shall remain in contact with the fabric around the entire perimeter of the label, when the product is in all manufacturer-recommended use positions, when tested in accordance with 7.5.3.

(7) Instead of complying with section 6.2 of ASTM F1917-12, comply with the following:

(i) 6.2 *Maximum Crib Bumper/Liner Thickness*—For all crib bumpers/liners, each bumper/liner section shall slide through the crib bumper/liner thickness test fixture (see Fig. 1) over its entire length at a rate no less than 0.5 inch per second when tested in accordance with 7.3. The bumper shall be tested in its pre-washed state and also after three wash/dry cycles performed according to the manufacturer's care instructions.

(ii) Note: Test fixture shall be fabricated from aluminum and have a smooth finish. The test fixture slot and fillet finish shall be 1.6 Ra.

(iii) **FIG. 1 Crib Bumper/Liner Thickness Test Fixture**(8) Instead of complying with section 6.3 of ASTM F1917-12, comply with the following:

(i) 6.3 *Strength of Crib Bumper/Liner Attachments and Seams*

(ii) 6.3.1 *Attachment Means*—Following the testing specified in 7.4.1, the attachment means for a crib bumper/liner shall not fully detach from the crib bumper/liner. Partial detachment or tearing is allowed.

(iii) 6.3.2 *Seams*—Following the testing specified in 7.4.2, no seam shall have an opening that allows a 0.22-inch diameter steel rod to enter.

(iv) 6.3.3 *Decorative Components*—Following the testing specified in 7.4.3 the decorative component shall not fully detach from the crib bumper/liner. Partial detachment or tearing is allowed.

(v) 6.4 *Crib Bumper/Liner Firmness*—For crib bumpers/liners with an installed thickness of 0.59 in. (15 mm) or greater, no part of the bumper shall contact the feeler arm of the firmness test fixture (see Fig. 2), when tested in accordance with 7.7.

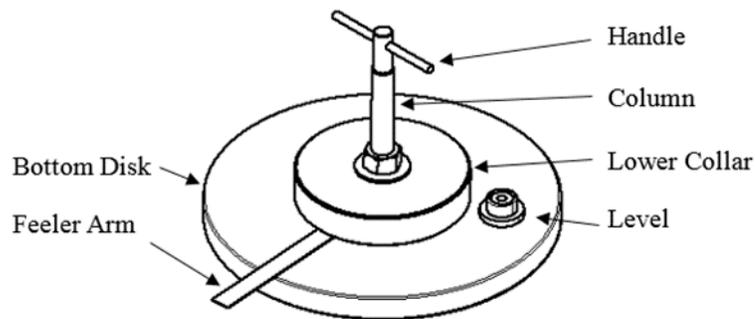


FIG. 2 Firmness Test Fixture

(vi) 6.5 *Crib Bumper/Liner Entrapment in Openings*—When tested in accordance with the head probe test specified in 7.8, no opening shall allow passage of the small head test probe (Fig. 3). Passage is defined as admitting the base of the probe.

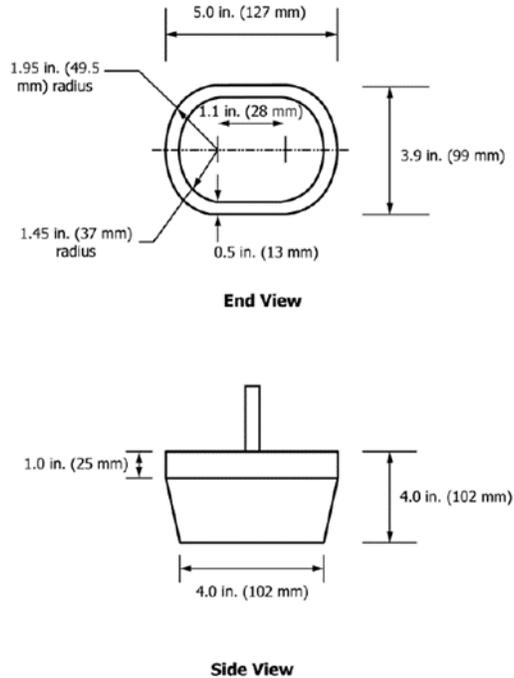


FIG. 3 Head Probe for Entrapment in Openings Testing

(vii) 6.6 Crib Bumper/Liner Airflow—When tested in accordance with the airflow test specified in 7.9, no crib bumper/liner shall measure a pressure differential of greater than 0.003 inches (0.076 mm) H₂O.

(9) Instead of complying with section 7.3 of ASTM F1917-12, including Note 1, comply with the following:

(i) *7.3 Crib Bumper/Liner Thickness Test*-- Align the crib bumper/liner thickness test fixture so that the surface of the fixture with the opening is horizontal. Insert a bumper end into the opening so that the bumper end protrudes just beyond the lower surface of the test fixture and attach a 5-lb static weight to the midpoint of the protruding bumper end. Keeping the bumper positioned vertically, allow the weight to slowly draw the bumper through the opening.

Note 1—If the attachment means or other localized means provided to secure the bumper to the crib interfere with the bumper sliding through the bumper thickness test fixture, ease the ties or other attachment means through the fixture and then continue the test.

(10) Instead of complying with section 7.4 of ASTM F1917-12, including Note 2, comply with the following:

(i) *7.4 Crib Bumper/Liner Strength Tests*—Tensile tests of attachment means, decorative components, and seams shall be conducted using clamps as described in 7.4.1, 7.4.2, 7.4.3. The force in each test shall be applied evenly within a period of 5 s, and maintained for additional 10 s. The loading device shall be a self-indicating gauge or other appropriate means having an accuracy of +/-0.5 lb (+/-2 N).

(ii) *7.4.1 Attachment Means Strength*—Apply a tensile force of 20 lb on the bumper attachment means by clamping the free end in a perpendicular direction away from the attachment point to the bumper.

(iii) *7.4.1.1 Attachment means that share a common attachment point shall be tested together, as if one attachment means.*

Note 2—There is no single clamp or method of attachment specified for the crib bumper/liner attachment means strength test. Any suitable means may be used to apply the force specified in 7.4.1.

(iv) *7.4.2 Seams Strength*—Apply a tensile force of 20 lb in a direction most likely to pull the seam apart. The clamps used to grip the material on either side of the seam to be tested shall have jaws to which are attached 3/4-in. (19-mm) diameter washers (see Fig. 4). The clamps shall be attached to the cover material of a completely assembled crib liner in a manner such that the

outside diameter of the 3/4-in. (19-mm) washers at a point nearest the seam shall be close to, but no closer than 1/2 in. (13 mm) from the edge of the seam stitching thread.

(v) 7.4.3 *Decorative Components, Attachment Strength*—Apply a tensile force of 20 lb on the decorative component in a perpendicular direction away from the attachment point of the decorative component to the crib liner. With the crib liner held in a convenient position, an appropriate clamp shall be attached to the decorative component. The clamp shall be applied in a manner that will not affect the structural integrity of the attachment between the decorative component and the crib bumper/liner.

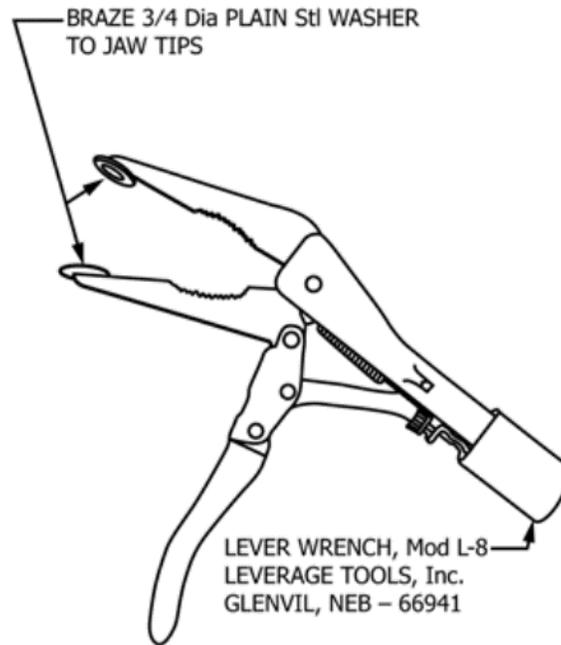


FIG. 4 Seam Clamp

(vi) 7.5 *Permanency of Labels and Warnings:*

(vii) 7.5.1. 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.

(viii) 7.5.2. 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.

(ix) 7.5.3. 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 most likely to cause failure using a 0.75 in. (19 mm) diameter clamp surface. Gradually apply the force over 5 s and maintain for an additional 10 s.

(xi) 7.6. *Adhesion Test for Warnings Applied Directly onto the Surface of the Product.*

(xii) 7.6.1. Apply the tape test defined in Test Methods D3359, Test Method B—Cross-Cut Tape Test of Test Methods, eliminating parallel cuts.

(xiii) 7.6.2. Perform this test once in each different location where warnings are applied.

(xiv) 7.6.3. 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.

(xv) 7.6.4. A non-paper label, during an attempt to remove it without the aid of tools or solvents, shall not fit entirely within the small parts cylinder defined in 16 CFR 1501 if it can be removed.

(xvi) 7.7. *Crib Bumper/Liner Firmness Test*—Select one side of the crib bumper/liner. All marks described in this section shall be made at mid-bumper/liner height. For each crib bumper/liner intended for a short side of a crib, or segments of a crib bumper/liner intended for a short side of a crib, mark two points along the bumper/liner length: one at 1/3 of the total length, and one at 2/3 of the total length (see Figure 5). For each crib bumper/liner intended for a long side of a crib, or segments of a crib bumper/liner intended for a long side of a crib, mark three points along the bumper/liner length: 1/4, 1/2, and 3/4 of the total length (see Figure 5). There

will be 10 marks in total for a single continuous bumper/liner intended to cover all four sides of a standard full-size rectangular crib. For each crib bumper/liner intended for a circular crib, divide the total bumper/liner length into 10 equal segments and mark the centroid of each segment. For crib bumpers/liners no wider than 8 inches (203 mm), with the long axis intended to be installed vertically on the crib side, mark the centroid of the bumper/liner (see Figure 5). Place the center of the firmness test fixture (Figure 2) on each mark with the feeler arm oriented in a way that is most likely to contact the bumper/liner surface when the fixture is set down, such as over a plush construction. The firmness test fixture may be rotated such that the feeler arm is in any orientation that is completely over the crib bumper/liner.

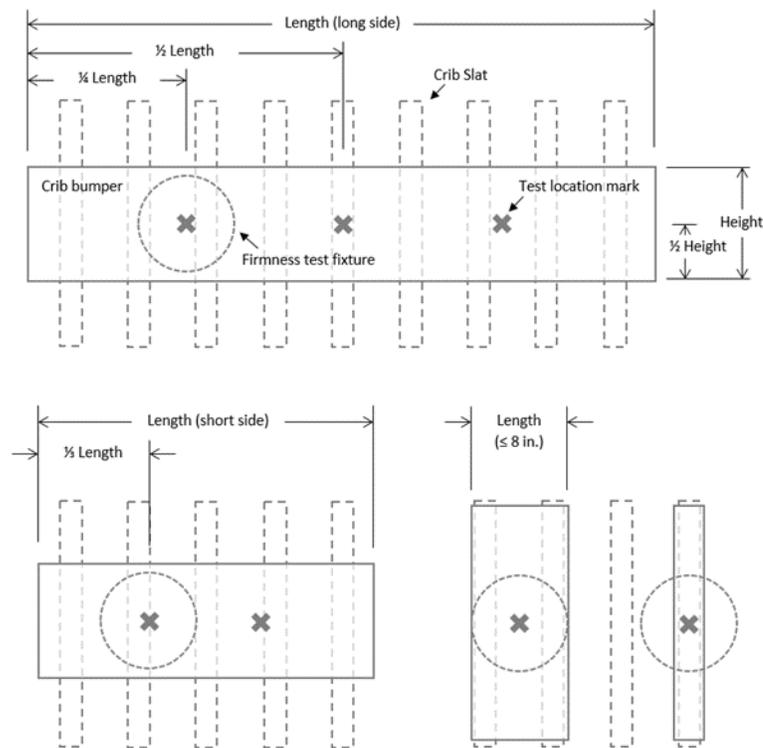


FIG. 5 Firmness Test Locations

(xvii) 7.7.1. Test Equipment – The Firmness Test Fixture of Figure 2 shall be constructed with the following components:

(xviii) 7.7.1.1. A Bottom Disk with a diameter of 203 mm (7.99 in.), thickness of 15 mm (0.59 in.) with a bottom radius of 1 mm (0.039 in.).

(xix) 7.7.1.2. A Feeler Arm of high speed steel comprising a flat bar, 12 mm (0.47 in.) wide, 0.51 mm to 0.76 mm (0.02 to 0.03 in.) thick, with square-cut ends that is positioned over a radial axis of the Bottom Disk and attached to the Bottom Disk such that the Feeler Arm overhangs the edge of the Bottom Disk by 40 mm (1.57 in.).

(xx) 7.7.1.3. A Level Indicator attached to the Bottom Disk near the Feeler Arm, without touching, and such that it indicates level with minimum accuracy of 11.7 mm/m (0.14 in./ft) parallel to the feeler arm and does not overhang the edge of the Bottom Disk in a way that interferes with testing.

(xxi) 7.7.1.4. A Vertical Column with Handle and Collar attached to the center of the Bottom Disk.

(xxii) 7.7.1.5. Total mass of the Apparatus shall be 5.2 kg (11.5 lb) including all components and fasteners.

(xxiii) 7.7.1.6. Mass of the Bottom Disk shall be not less than 70% of the total mass.

(xxiv) 7.7.1.7. Vertical height of assembled apparatus shall not exceed 203.2 mm (8 in.) and the height of the collar shall not exceed 50.8 mm (2 in.) to minimize the bias to the Bottom Disk.

(xxv) 7.7.2. Test Procedure

(xxvi) 7.7.2.1. Preconditioning of Sample—The crib bumper/liner shall be tested in its pre-washed state and also after three wash/dry cycles performed according to the manufacturer's

care instructions. The crib bumper/liner shall be conditioned for 48 hours prior to testing in an environment of 23 +/- 2 Celsius (73.4 +/- 3.6 Fahrenheit) and a relative humidity of 50 +/- 5%. The crib bumper/liner shall be fully assembled and dry prior to testing.

(xxvii) 7.7.2.2. Shake the crib bumper/liner to aerate and distribute any filling materials evenly. Allow the crib bumper/liner to settle for 5 minutes.

(xxviii) 7.7.2.3. Place the side to test face up on a horizontal, flat, rigid surface for testing. The crib bumper/liner may be secured to the horizontal surface using the attachment means in a manner that approximates securing the crib bumper/liner to crib rails.

(xxix) 7.7.2.4. Test each placement marked in 7.7 by lowering the firmness test fixture with the bottom disk horizontal until the fixture is supported by the crib bumper/liner. Gently adjust the orientation of the base manually if needed until it is horizontal while resting. Record any contact with the feeler gauge at each placement as a failure of the firmness requirement. Repeat steps 7.7.2.2 and 7.7.2.3 if any placement is within 457 mm (18 in.) of a prior placement, or if 5 minutes have elapsed since completing 7.7.2.2.

(xxx) 7.7.2.5. Repeat firmness testing 7.7.2.1 to 7.7.2.4 until all remaining located placements have been tested or a failure has been recorded.

(xxxi) 7.7.2.6. Repeat firmness testing on the other side of the bumper/liner. Testing the other side is not required for crib bumpers/liners that cannot be reasonably installed on the other side.

(xxxii) 7.8 *Crib Bumper/Liner Entrapment in Openings Test*—Choose a location most likely to admit the head probe, including between the top and bottom edges of the crib bumper/liner and the test platforms or mattress. Create an accessible opening by exerting a force on the bumper/liner using an appropriate clamping device, equal to 3-lbf (13 N) and directed

horizontally away from, and perpendicular to, the test platform. The force is be applied gradually over a 5 s period and maintained throughout the head probe test. Insert the head test probe, tapered end first, into any opening created between the crib bumper/liner and the test platform or mattress, and rotate the small head test probe to the orientation most likely to fail. Apply a force of 10 lbf (45 N) at the base of the small head test probe in a direction that is perpendicular to the plane of the opening. The force is be applied gradually over a 5 s period and maintained throughout the head probe test. Repeat this test at any other locations on the crib bumper/liner most likely to fail.

(xxxiii) 7.8.1. *Test Equipment*

(xxxiv) 7.8.1.1. Head Probe—The head probe specified in ASTM F963 (see Fig. 3) shall be used for entrapment tests.

(xxxv) 7.8.1.2. Test Platforms—Testing shall be conducted on all test platforms in this section. All test platforms shall have four vertical sides, be rectangular in plan, and have an internal length of $52\text{-}3/8 \pm 5/8$ in and internal width of $28 \pm 5/8$ in. Test platforms shall have a rectangular mattress support that supports a standard 5-in full-size crib mattress. Spacing between components, including between slats, shall be $2\text{-}3/8 \pm 0\text{-}1/32$ in. Each of the long and short panels shall be rectangular in form with a top, bottom, left, and right side rails. Top rail shall be 26 in above a horizontal mattress support. All spindles shall have ends secured into top and bottom rails. Left and right side rails shall end into top and bottom rails. All rails shall be 1.0 in thick. The top and bottom rail shall have 1.5 in depth. Each long and short panel shall form a vertical corner between the left or right sides when assembled. Round spindles shall be $5/8$ in diameter. Flat spindles shall be $1\text{-}1/8$ in wide by $3/8$ in thick with $1/16$ in radius edges. Crib bumpers/liners intended for circular cribs shall be tested on a commercially available

circular crib.

Test Platform A—This test platform is composed of two long panels with 16 round spindles each and two short panels with eight round spindles each.

Test Platform B—This test platform is composed of one long panel with 16 round spindles, one solid long panel, and two short panels with eight round spindles each.

Test Platform C—This test platform is composed of two long panels with 16 round spindles each and two solid short panels.

Test Platform D—This test platform is composed of two long panels with 14 rectangular spindles each and two short panels with seven rectangular spindles each.

Test Platform E—This test platform is composed of one long panel with 14 rectangular spindles, one solid long panel, and two short panels with seven rectangular spindles each.

Test Platform F—This test platform is composed of two long panels with 14 rectangular spindles each and two solid short panels.

(xxxvi) 7.9 Crib Bumper/Liner Airflow Test—Airflow testing of each crib bumper/liner shall be performed in accordance with the air permeability test method specified in the British Standard BS 4578:1970, Specification for Methods of test for hardness of, and for air flow through, infants' pillows, with the following modifications:

(xxxvii) 7.9.1 The test shall be performed on a plane rigid perforated support that will minimally interfere with air flow.

(xxxviii) 7.9.2 The flow rate shall be adjusted to 2 L/min.

(11) Instead of complying with section 8 of ASTM F1917-12, comply with the following:

(i) **8. Marking and Labeling**

(ii) 8.1. Each product and its retail package shall be marked or labeled clearly and legibly

to indicate the following:

(iii) 8.1.1. The name, place of business (city, state, and mailing address, including zip code), and telephone number of the manufacturer, distributor, or seller.

(iv) 8.1.2. A code mark or other means that identifies the date (month and year as a minimum) of manufacture.

(v) 8.2. The marking and labeling on the product shall be permanent.

(vi) 8.3. Any upholstery labeling required by law shall not be used to meet the requirements of this section.

(vii) 8.4. Crib bumpers/liners shall be marked or labeled clearly and legibly, in the English language at a minimum, to identify which segments of the bumper/liner are intended for the short and long sides of the crib, unless the bumper/liner is intended for a circular crib or is less than 28 inches in length, not including attachment means.

(viii) 8.5. *Warning Design for Product:*

(ix) 8.5.1. The warnings shall be easy to read and understand and be in the English language at a minimum.

(x) 8.5.2. 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.

(xi) 8.5.3. The warning statements shall be conspicuous and permanent.

(xii) 8.5.4. 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.

(xiii) 8.5.4.1. In sections 6.2.2, 7.3, 7.5, and 8.1.2 of ANSI Z535.4-2011, replace

“should” with “shall.”

(xiv) 8.5.4.2. In section 7.6.3 of ANSI Z535.4-2011, replace “should (when feasible)” with “shall.”

(xv) 8.5.4.3. Strike the word “safety” in ANSI Z535.4-2011 when used immediately before a color (for example, replace “safety white” with “white”).

Note—For reference, ANSI Z535.1 provides a system for specifying safety colors.

(xvi) 8.5.5. 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 uppercase shall be at least 0.1 in. (2.5 mm) high.

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

(xvii) 8.5.6. *Message Panel Text Layout:*

(xviii) 8.5.6.1. The text shall be left aligned, ragged right for all but one-line text messages, which can be left aligned or centered.

Note—Left aligned means that the text is aligned along the left margin, and, in the case of multiple columns of text, along the left side of each individual column. Please see Fig. 6 for examples of left aligned text.



FIG. 6 Examples of Left Aligned Text

(xix) 8.5.6.2. The text in each column should be arranged in list or outline format, with precautionary (hazard avoidance) statements preceded by bullet points. Multiple precautionary statements shall be separated by bullet points if paragraph formatting is used.

(xx) 8.5.7. An example in the format described in this section is shown in Fig. 7.



FIG. 7 Example—Warning Statement Text Layout

(xxi) 8.6. *Warning Statements for Crib Bumpers/Liners*—Each crib bumper/liner, or each crib bumper/liner panel if the bumper/liner is sold as multiple panels that can be used separately, shall have warning statements to address the following, at a minimum:

“To reduce the risk of **SUFFOCATION**:

- **Keep tight against side of crib.** Do not use if product is loose or sags down toward sleeping surface.
- **Never put pillows or anything else in crib** that could trap baby against this product.
- **Only use in a crib without broken parts or missing slats.** This product will not fix a broken crib or prevent baby from falling out. **Never use in a toddler bed or bassinet.**

To help prevent **ENTANGLEMENT** or **STRANGULATION**, position ties to outside of crib and secure tightly. [Exception: If product does not include an attachment means greater than 7 inches in length, this statement may be omitted.]

Remove this product when baby can pull to a stand using crib side (starting about 6 months). Older babies can use product to climb out of crib.”

Note—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.

(12) Instead of complying with section 9 of ASTM F1917-12, comply with the following:

(i) **9. Instructional Literature**

(ii) 9.1. Instructions shall be provided with the product and shall be easy to read and understand, and shall be in the English language at a minimum. These instructions shall

include information on assembly, installation, maintenance, cleaning, and use, where applicable.

(iii) 9.2. The instructions shall include all warnings specified in 8.6, where applicable.

9.3 The warnings in the instructions shall meet the requirements specified in 8.5.4, 8.5.5 and 8.5.6, except that sections 6.4 and 7.2–7.6.3 of ANSI Z535.4 need not be applied.

However, the signal word and safety alert symbol shall contrast with the background of the signal word panel, and the warnings shall contrast with the background of the instructional literature.

Note—For example, the signal word, safety alert symbol, and the warnings may be black letters on a white background, white letters on a black background, navy blue letters on an off-white background, or some other high-contrast combination.

(C) 9.4 Any instructions 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.

Note—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.

Dated: _____

Alberta E. Mills,

Secretary, Consumer Product Safety Commission