United States
Consumer Product Safety Commission

This document has been electronically approved and signed.

Ballot Vote Sheet

TO: The Commission
Alberta E. Mills, Secretary

DATE: August 10, 2022

THROUGH: Austin C. Schlick, General Counsel
Jason K. Levine, Executive Director

FROM: Daniel R. Vice, Assistant General Counsel, Regulatory Affairs
David M. DiMatteo, Attorney, Regulatory Affairs

SUBJECT: ASTM's Revised Safety Standard for Frame Child Carriers

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BALLOT VOTE DUE: Tuesday, August 16, 2022

In 2015, the Commission issued a Safety Standard for Frame Child Carriers (16 CFR part 1230) under the Consumer Product Safety Improvement Act of 2008 (CPSIA). That mandatory standard incorporated by reference ASTM F2549-14a, *Standard Consumer Safety Specification for Frame Child Carriers*.

ASTM has revised its standard and notified the Commission of the revised standard (ASTM F2549-22). Under the CPSIA, when ASTM notifies CPSC that it has revised a voluntary standard for a durable infant or toddler product that the Commission has incorporated by reference, the revised standard automatically becomes the mandatory standard, unless the Commission determines that the revised standard "does not improve the safety of the consumer product" and so notifies the voluntary standards organization.

Staff is forwarding to the Commission a briefing memorandum recommending that the Commission issue a direct final rule to update the ASTM standard incorporated by reference in the Safety Standard for Frame Child Carriers. Attached for Commission consideration is a draft *Federal Register* notice for that purpose. If approved by the Commission, the Office of the General Counsel will seek approval of the incorporation by reference from the Office of the Federal Register, in accordance with the requirements in 1 CFR part 51, and upon receiving such approval, will send the notice to the *Federal Register* for publication.

Please indicate your vote on the following options:

I. Approve publication of the attached notice in the *Federal Register*, as drafted.

_____ _____
(Signature) (Date)

U.S. Consumer Product Safety Commission
4330 East-West Highway
Bethesda, MD 20814
cpsc.gov

National Product Testing & Evaluation Center
5 Research Place
Rockville, MD 20850

Ballot Vote Sheet

II. Approve publication of the attached notice in the *Federal Register*, with the following changes.

_____

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_____ _____

(Signature) (Date)

III. Determine that the proposed revision does not improve the safety of frame child carriers and therefore do not approve publication of the attached notice in the *Federal Register*.

_____ _____

(Signature) (Date)

IV. Take other action specified below.

_____

_____

_____

_____

_____ _____

(Signature) (Date)

Attachment: Draft *Federal Register* notice: Safety Standard for Frame Child Carriers

U.S. Consumer Product Safety Commission
4330 East–West Highway
Bethesda, MD 20814
cpsc.gov

National Product Testing & Evaluation Center
5 Research Place
Rockville, MD 20850

[Billing Code 6355-01-P]

CONSUMER PRODUCT SAFETY COMMISSION

16 CFR Part 1230

[Docket No. CPSC-2014-0011]

Safety Standard for Frame Child Carriers

AGENCY: Consumer Product Safety Commission.

ACTION: Direct final rule.

SUMMARY: In March 2015, the U.S. Consumer Product Safety Commission (CPSC) published a consumer product safety standard for frame child carriers under section 104 of the Consumer Product Safety Improvement Act of 2008 (CPSIA). The standard incorporated by reference the ASTM voluntary standard for frame child carriers that had been adopted in 2014 and was in effect at the time. The CPSIA sets forth a process for updating mandatory standards for durable infant or toddler products that are based on a voluntary standard, when the voluntary standards organization revises the standard. Consistent with the CPSIA's update process, this direct final rule updates the mandatory standard for frame child carriers to incorporate by reference ASTM's 2022 version of the voluntary standard.

DATES: The rule is effective on December 3, 2022, unless CPSC receives a significant adverse comment by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. If CPSC receives such a comment, it will publish a notice in the *Federal Register,* withdrawing this direct final rule before its effective date. The incorporation by reference of the publication listed in this rule is approved by the Director of the Federal Register as of December 3, 2022.

ADDRESSES: You can submit comments, identified by Docket No. CPSC-2014-0011, by any of the following methods:

Electronic Submissions: Submit electronic comments to the Federal eRulemaking Portal at: https://www.regulations.gov. Follow the instructions for submitting comments. Do not submit through this website: confidential business information, trade secret information, or other sensitive or protected information that you do not want to be available to the public. CPSC typically does not accept comments submitted by electronic mail (e-mail), except as described below.

Mail/hand delivery/courier/confidential Written Submissions: CPSC encourages you to submit electronic comments by using the Federal eRulemaking Portal. You may, however, submit comments by mail, hand delivery, or courier to: Office of the Secretary, Consumer Product Safety Commission, 4330 East West Highway, Bethesda, MD 20814; telephone: (301) 504-7479.

Instructions: All submissions must include the agency name and docket number. CPSC may post all comments without change, including any personal identifiers, contact information, or other personal information provided, to: https://www.regulations.gov. If you wish to submit confidential business information, trade secret information, or other sensitive or protected information that you do not want to be available to the public, you may submit such comments by mail, hand delivery, or courier, or you may e-mail them to: cpsc-os@cpsc.gov.

Docket: For access to the docket to read background documents or comments received, go to: https://www.regulations.gov, and insert the docket number, CPSC-2014-0011, into the "Search" box, and follow the prompts.

FOR FURTHER INFORMATION CONTACT: Keysha Walker, Compliance Officer, U.S. Consumer Product Safety Commission, 4330 East West Highway, Bethesda, MD 20814; telephone: (301) 504-6820; e-mail: KWalker@cpsc.gov.

SUPPLEMENTARY INFORMATION:

A. Background

1. Statutory Authority

Section 104(b)(1) of the CPSIA requires the Commission to assess the effectiveness of voluntary standards for durable infant or toddler products and to adopt mandatory standards for these products. 15 U.S.C. 2056a(b)(1). A mandatory standard must be "substantially the same as" the corresponding voluntary standard, or it may be "more stringent than" the voluntary standard, if the Commission determines that more stringent requirements would further reduce the risk of injury associated with the product. *Id.*

Section 104(b)(4)(B) of the CPSIA specifies the process for updating the Commission's rules when a voluntary standards organization revises a standard that the Commission previously incorporated by reference under section 104(b)(1). First, the voluntary standards organization must notify the Commission of the revision. Once the Commission receives this notification, the Commission may reject or accept the revised standard. The Commission may reject the revised standard by notifying the voluntary standards organization, within 90 days of receiving notice of the revision, that it has determined that the revised standard does not improve the safety of the consumer product and that it is retaining the existing standard. If the Commission does not take this action to reject the revised standard, then the revised voluntary standard will be considered a consumer product safety standard issued under section 9 of the Consumer Product Safety Act (15

U.S.C. 2058), effective 180 days after the Commission received notification of the revision or on a later date specified by the Commission in the *Federal Register*. 15 U.S.C. 2056a(b)(4)(B).

2. Safety Standard for Frame Child Carriers

Under section 104(b)(1) of the CPSIA, the Commission adopted a mandatory rule for frame child carriers, codified in 16 CFR part 1230. The rule incorporated by reference ASTM F2549-14a, *Standard Consumer Safety Specification for Frame Child Carriers*, with no modifications. 80 FR 11121 (Mar. 2, 2015). At the time the Commission published the final rule, ASTM F2549-14a was the current version of the voluntary standard. Until now, the voluntary standard has not been revised since promulgation of the final rule.

On June 6, 2022, ASTM notified CPSC that it has revised the voluntary standard for frame child carriers, by approving ASTM F2549-22 on April 1, 2022. On June 16, 2022, the Commission published a notice of availability in the *Federal Register* regarding the revised voluntary standard and sought comments on the effect of the revisions on the safety of the standard for frame child carriers. 87 FR 36311 (Jun. 16, 2022). We did not receive any comments.

As discussed in section **B. Revisions to ASTM F2549**, based on CPSC staff's review of ASTM F2549-22,[1] the Commission will allow the revised voluntary standard to become the mandatory standard because it improves the safety of frame child carriers.[2] Accordingly, by operation of law under section 104(b)(4)(B) of the CPSIA, ASTM F2549-22 will become the mandatory consumer product safety standard for frame child carriers on December 3, 2022. 15 U.S.C. 2056a(b)(4)(B). This direct final rule updates 16 CFR part 1230 to incorporate by reference the revised voluntary standard, ASTM F2549-22.

[1] CPSC staff's briefing package regarding ASTM F2549-22 is available at: [INSERT LINK].
[2] The Commission voted T-B-D to approve this notice.

B. Revisions to ASTM F2549

The ASTM standard for frame child carriers includes performance requirements, test methods, and requirements for warning labels and instructional literature, to address hazards to children associated with frame child carriers. ASTM F2549-22 contains substantive revisions, as well as editorial, non-substantive revisions. These revisions consist of revising the load condition in the Dynamic Strength Test and Stability Test, increasing the applied torque in the Torque Test, replacing the test torso, harmonizing the warning label with the standard's scope, adding additional flammability requirements for fabric components of the product, and applying several minor language revisions. The Commission concludes that these changes collectively improve the safety of frame child carriers, and none of the changes has a material adverse effect on safety. Below is a detailed discussion of the substantive and non-substantive changes made to ASTM F2549-14a.

Substantive changes in ASTM F2549-22

ASTM F2549-22 made the following substantive changes to ASTM F2549-14a:

1. In section 5.12, the revised standard adds flammability requirements for fabric components of the frame carrier, in addition to the existing flammability requirements for solid components of the frame carrier (as determined by 16 CFR 1500.3(c)(6)(vi)). The new requirements for fabric components of the frame carrier specify: "There shall be no Class 2 or 3 fabrics used in the construction of a frame child carrier when the fabrics are evaluated against the requirements of 16 CFR 1610." Accordingly, the new requirements only permit the use of Class 1 fabrics, which have a lower flammability that is acceptable for use in clothing.

The regulation at 16 CFR part 1610 is an ignition test that measures the time it takes for a fabric sample to ignite when a flame is applied. Class 2 and Class 3 fabrics ignite in less time than Class 1 fabrics; therefore, they are more flammable. The revised standard only permits the use of Class 1 fabrics, which exhibit the longest time to ignite (and therefore, are the least flammable fabric class) and are rated for use in clothing. This change improves the safety of frame child carriers because it ensures that fabric components of the frame carrier meet the most stringent flammability requirements for fabrics.

2. The revised standard adds a requirement in section 5.12.3 under 5.12 *Flammability of Frame Child Carriers* that states, "Non-toy accessories that are sold with and intended to be attached to the product shall also meet the requirement of 5.12." This change improves the safety of frame child carriers because it ensures that non-toy accessories, such as sunshades, hoods, and bibs meet the most stringent flammability requirements for solids and fabrics.

3. Figure 5 in the revised standard specifies a drawing of a rigid torso with dimensions, which replaces a generic photo of a typical torso that is used for training. The rigid test torso with dimensions aligns with the test torso specified in other standards for child carrier products (ASTM F2907-19- Standard Consumer Safety Specification for Sling Carriers, the EN 13209-1 Child care articles. Child carriers. Safety requirements and test methods Framed back carrier, and EN 13209-2 Child use and care articles – Baby carriers- Safety requirements and test methods – Part 2: Soft carrier). The new test torso is referenced in sections 7.2 *Dynamic Strength Test* and 7.3 *Static Load Test*.

The dynamic and static performance tests require attachment of the frame carrier to a test torso. However, the test results are determined by the magnitude and location of the force applied to the product in the static load and dynamic strength test, and the results are not affected by minor changes to the structure to which the product is attached. Therefore, the change to the test torso does not impact safety.

4. In the 2022 version of the standard, ASTM revised multiple elements pertaining to dynamic strength, which improve safety. In section 6.2 *Dynamic Strength*, the revised standard adds to the dynamic strength requirements an evaluation of the system that attaches the frame carrier to the user's torso, in addition to the existing evaluation of the system that retains the child occupant in the frame carrier.

The frame carrier's attachment system includes any straps or hardware that secure the frame carrier to the caregiver. The revised Dynamic Strength performance requirement now ensures that the frame carrier's attachment straps and buckles will not slip more than 1 inch after 90 cycles of up/down movement of the fully loaded frame carrier. This additional test improves the safety of frame child carriers because it ensures that all straps related to the proper retention and orientation of the occupant (including both those within the product and those between the product and the caregiver) will not loosen to the point that the child occupant can fall from the product.

In section 7.2 *Dynamic Strength Test*, sections 7.2.1 through 7.2.6 of the standard were revised. These changes consist of a new test torso and evaluating the attachment system as described above, adding weights to the external pockets, and modification of the test sequence.

Section 7.2.3 now states, “Pockets, pouches, and other carrying receptacles of the product shall be loaded with weight(s) up to the manufacturer’s maximum recommended weight(s), in such a way that will create the most onerous test condition. The most onerous test condition may include no weight(s) or lower than maximum weight(s) in some receptacles.” Section 6.2 *Dynamic Strength* clarifies that “Seams of pockets, pouches, and other carrying receptacles are exempt from [the requirement prohibiting damage after the performance test]” because failure of these areas will not affect the retention and safety of the child occupant.

The revised standard modifies section 7.2.5 under 7.2 *Dynamic Strength Test* to provide for readjustment or re-tightening of all adjustable components, such as straps in the occupant retention system and attachments to the test torso after completion of a 90-cycle vibration test (which follows a 10-cycle test) and before the carrier is subjected to a 49,900-cycle vibration test. The test procedure in ASTM F2549-14a did not have the readjustment step before the 49,900-cycle vibration test.

As noted, the application of this test to attachment straps improves safety. With respect to the occupant retention straps, which were subjected to the Dynamic Strength Test under the 2014 standard, the change of readjusting straps after the 90-cycle test results in a potentially less stringent test. This is unlikely to affect the outcome of the test, however, because the test total of 50,000 cycles should fail any substandard strap, fastener, or frame component, regardless of the change. Because a looser adjustment strap for occupant retention is unlikely to affect the outcome of the test after 50,000 cycles of testing, and because the revised test conditions of an increased test load and

evaluation of the attachment system are more stringent, the revision to 7.2 *Dynamic Strength Test* is an improvement in safety.

5. Section 7.1.1 *Leg Openings Test*- The following non-mandatory note was removed: "If the manufacturer does not provide instructions for seat height, adjust the seat so that it results in CAMI's chin resting right above the edge of the frame carrier." This non-mandatory note was removed to avoid confusion potentially leading to the carrier not being tested under the most onerous condition.

   In some product designs, the leg opening becomes larger as the seat is lowered. Therefore, lowering the seat in these designs can create the most onerous position for the *Leg Openings Test*. However, because this is an explanatory note, and not mandatory, and because there is no change in the requirements to test the product in the most onerous condition, there is no impact on safety.

6. The revised standard modifies sections 7.4.3 and 7.4.4 under 7.4 *Stability Test* to increase the test load from "at least 40 lb (18.1 kg)" to "40 lb (18.1 kg) or equal to the manufacturer's maximum recommended weight for the occupant, if greater."

   This change improves the safety of frame child carriers because it increases the test weight used in the stability test for some frame child carriers. Increasing the test weight increases the center of gravity height used in the stability test. As the center of gravity increases, the tested product is more likely to tip over and fail. Therefore, the change makes the stability test more stringent.

7. The revised standard modifies section 7.10.3 *Torque Test* in section 7.10 *Removal of Protective Components Test* to increase the applied torque from 2 lbf-in to 4 lbf-in. The torque is applied clockwise to any component that is graspable in a child's hand or

teeth or if there is at least .04 inch gap between the component and its adjacent component.

This change improves the safety of frame child carriers. It increases the torque applied to components that may come loose when grasped by a child, which reduces the likelihood of a part coming loose and becoming accessible to the child.

8. The revised standard creates a new section 8.5 *Warning Statements* in section 8, *Marking and Labeling,* with the following guidelines:

- Adds an explicit description of the fall hazard related to a child slipping through the leg opening of the frame carrier.
- Increases recommended maximum child weight range from "40 lbs (or the maximum child weight recommended by the manufacturer, if less)" to "50 lbs (22.7 kg) (or the maximum weight recommended by the manufacturer, if less)." This change aligns the warning label with the scope of ASTM F2549, which states that a "frame carrier is intended for use with a child that is able to sit upright unassisted and weighs between 16 lb and 50 lb (7.3 kg and 22.7 kg)."
- Adds a clarification that the maximum overall weight recommendation for the product includes the cargo in pockets/pouches in addition to the weight of the child occupant. The maximum overall weight statement shall immediately follow recommended occupant weight statement.
- Adds a new Figure of an exemplar warning label that illustrates the guidelines specified in section 8.5.

These changes to the warnings and instructions improve the safety of frame child carriers because they harmonize the maximum weight stated in the warning label with the maximum

weight stated in the standard's scope, and they clarify the fall hazard in the warning label. The scope of the 2009 version of the standard (ASTM F2549-09) included products that could carry children up to 40 pounds. When the standard was updated to include products that could carry children up to 50 pounds, in F2549-13, this warning label was not updated to reflect the change, and that issue persisted in the F259-14a version that is incorporated by reference in the Commission's rule. The 2022 version of ASTM F2549 remedies this, aligning the warning label with the updated 50-pound limit from 2013. In addition, this change adds a required warning label informing consumers of the product's maximum allowed weight (child + cargo), and thus, it is an improvement in safety.

The substantive changes made in ASTM F2549-22 are an improvement to the safety of frame child carriers. These changes introduce more stringent requirements or more stringent test conditions for flammability, leg hole openings, dynamic strength tests (to evaluate product durability and strap slippage), static stability tests, and torque test to evaluate graspable parts. Therefore, the Commission concludes that these changes improve the safety of frame child carriers.

Non-substantive changes in ASTM F2549-22

ASTM F2549-22 makes several non-substantive changes to the standard as follows:

1. Section 5.5 *Scissoring, Shearing, and Pinching,* contains an Ad Hoc revision[3] that makes the following changes (<u>underlined text</u> is added text and ~~strike through text~~ is deleted text) "Scissoring, shearing, or pinching that may cause injury ~~shall not be~~

[3] ASTM convened a task group, ASTM Ad Hoc Wording Task Group (Ad Hoc TG), consisting of members of the various durable nursery products voluntary standards committees, including CPSC staff. The purpose of the Ad Hoc TG is to harmonize the wording, as well as the warning format, across durable infant and toddler product voluntary standards. Ad Hoc TG recommendations were published as a reference document, titled, ''Ad Hoc Wording—May 4, 2016,'' as part of the F15 Committee Documents.

~~permissible~~ exists when the edges of ~~any~~ the rigid parts admit a prove greater than 0.210 in. (~~5.3~~(5.33 mm) and less than 0.375 in. (~~9.50~~(9.53mm) in diameter at any accessible point throughout the range of motion of such parts." This portion of section 5.5 is not a performance requirement but rather explains how to identify a scissoring, shearing, or pinching hazard. Therefore, changing "shall not be permissible" to "exists" does not remove or change any general requirements, which are found in section 5. Additionally, the preceding text of section 5.5 still states that products "shall be designed and constructed so as to prevent injury to the occupant from any scissoring, shearing, or pinching when members or components rotate about a common axis or fastening point, slide, pivot, fold, or otherwise move relative to one another." This preceding text ensures that all frame child carriers are evaluated for the scissoring, shearing, and pinching hazards. Therefore, this is a non-substantive change.

2. The section 5.8 *Locking and Latching* performance requirement is modified to exempt the frame child carrier's kickstand. Section 5.8 references section 7.8 *Locking Device Test*, where the locking device shall not unlock when a 10 lbf force is gradually applied in the direction tending to unlock it.

Kickstands are separately required to meet section 5.9 *Unintentional folding* performance requirement, which references section 7.9 *Unintentional Folding Test.* In the *Unintentional Folding Test,* the frame child carrier's seat is loaded with a 16-pound weight (or, if greater, the manufacturer's minimum recommended child weight), and the kickstand shall not fold when a 10 lbf force is gradually applied in the direction tending to fold it.

The *Unintentional Folding Test* referenced in the *Unintentional Folding* performance requirement is equivalent to the *Locking Device Test* referenced in the *Locking and Latching* performance requirement and better simulates the hazard loading condition of a frame child carrier's kickstand unintentionally folding. Therefore, this modification does not affect safety.

3. The revised standard adds a requirement to section 6.2 *Dynamic Strength,* which provides that the frame carrier "shall show no damage that will impair its function," in addition to the existing requirement that the frame carrier "shall not create a hazardous condition, such as frame or fasteners breaking or disengaging or seams separating" after the dynamic strength tests have been completed. Improper function of the frame carrier is a potentially hazardous condition if it affects retention of the child occupant. Adding impaired functioning as an example of a hazardous condition does not impact safety because it does not change the primary requirement that prohibits the creation of a hazardous condition in the frame carrier after 50,000 cycles of testing.

4. The 2022 revision clarifies section 7.2.3 of the Dynamic Strength Test by changing "alternating vertical movement at amplitude of 4.7 inches and a frequency of 2 cycles/second (Hz)" to "alternating vertical sinusoidal movement through 4.75 inches at a frequency of 2 Hz."

Originally, section 7.2.3 was intended to describe the vertical reciprocating movement of a frame carrier that moved up and down by 4.7 inches. Typically test labs, including CPSC, use a slider-crank linkage mechanism that converts the rotational motion from a motor shaft to a vertical reciprocating motion. The reciprocating vertical motion of the frame carrier follows the path of a sine wave.

The revision to the *Dynamic Strength Test* adds a better description of the vertical motion. Sinusoidal movement through 4.75 inches describes the vertical movement of the frame carrier in the shape of a sine curve as it raises and lowers by 4.75 inches. The revised wording better describes the vertical movement of the frame carrier during the existing test. Therefore, this is a non-substantive change.

5. Section 8.4. *Warning Design for Product* incorporates the ASTM Ad Hoc recommendations for the design and layout of warnings.

The Commission finds that all of the non-substantive changes made in ASTM F2549-22 regarding safety for frame child carriers do not impact safety because they are editorial in nature or modify a non-mandatory note that merely provides explanatory material.

C. Incorporation by Reference

Section 1230.2 of the direct final rule incorporates by reference ASTM F2549-22. The Office of the Federal Register (OFR) has regulations regarding incorporation by reference. 1 CFR part 51. Under these regulations, agencies must discuss, in the preamble to a final rule, ways in which the material the agency incorporates by reference is reasonably available to interested parties, and how interested parties can obtain the material. In addition, the preamble to the final rule must summarize the material. 1 CFR 51.5(b).

In accordance with the OFR regulations, section **B. Revisions to ASTM F2549** of this preamble summarizes the major provisions of ASTM F2549-22 that the Commission incorporates by reference into 16 CFR part 1230. The standard is reasonably available to interested parties. Until the direct final rule takes effect, a read-only copy of ASTM F2549-22 is available for viewing, at no cost, on ASTM's website at: https://www.astm.org/CPSC.htm. Once the rule takes effect, a read-only copy of the standard will be available for viewing, at no cost, on

the ASTM website at: https://www.astm.org/READINGLIBRARY/. Interested parties can also schedule an appointment to inspect a copy of the standard at CPSC's Office of the Secretary, U.S. Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, MD 20814, telephone: (301) 504-7479; e-mail: cpsc-os@cpsc.gov. Interested parties can purchase a copy of ASTM F2549-22 from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959 USA; telephone: (610) 832-9585; www.astm.org.

D. Certification

Section 14(a) of the Consumer Product Safety Act (CPSA; 15 U.S.C. 2051-2089) requires manufacturers of 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, to certify that the products comply with all applicable CPSC requirements. 15 U.S.C. 2063(a). Such certification must be based on a test of each product, or on a reasonable testing program, or for children's products, on tests of a sufficient number of samples by a third party conformity assessment body accredited by CPSC to test according to the applicable requirements. As noted, standards issued under section 104(b)(1)(B) of the CPSIA are "consumer product safety standards." Thus, they are subject to the testing and certification requirements of section 14 of the CPSA.

Because frame child carriers are children's products, a CPSC-accepted third party conformity assessment body must test samples of the products. Products subject to part 1230 also must comply with all other applicable CPSC requirements, such as the lead content requirements in section 101 of the CPSIA,[4] the tracking label requirements in section 14(a)(5) of

[4] 15 U.S.C. 1278a.

the CPSA,[5] and the consumer registration form requirements in section 104(d) of the CPSIA.[6] ASTM F2549-22 makes no changes that would impact any of these existing requirements.

E. Notice of Requirements

In accordance with section 14(a)(3)(B)(vi) of the CPSA, the Commission previously published a notice of requirements (NOR) for accreditation of third party conformity assessment bodies for testing frame child carriers. 80 FR 11121 (Mar. 2, 2015). The NOR provided the criteria and process for CPSC to accept accreditation of third party conformity assessment bodies for testing frame child carriers to 16 CFR part 1230. The NORs for all mandatory standards for durable infant or toddler products are listed in the Commission's rule, "Requirements Pertaining to Third Party Conformity Assessment Bodies," codified in 16 CFR part 1112. *Id*.

Fourteen of the seventeen testing laboratories that are currently CPSC-accepted to conduct testing for frame child carriers are also CPSC-accepted to conduct testing for sling carriers, which already requires them to possess the revised test torso that is newly required for testing to ASTM F2549-22. The three other laboratories should be able to acquire the new test torso (if they don't already have it) before the effective date for the mandatory standard. Laboratories likewise should have no difficulty creating or modifying equipment for the *Dynamic Strength Test*'s revised loading requirements and updating their procedures to align with the revised standard. Therefore, none of the changes to the standard would impede a CPSC-accepted laboratory from being able to conduct testing to the revised standard. CPSC-accepted testing laboratories that have ASTM F2549-14a in their scope of accreditation are competent to conduct testing to ASTM F2549-22. Therefore, the Commission considers the existing CPSC-accepted laboratories for testing to ASTM F2549-14a to be capable of testing to ASTM F2549-

[5] 15 U.S.C. 2063(a)(5).
[6] 15 U.S.C. 2056a(d).

22, as well. Accordingly, the existing NOR for this standard will remain in place, and CPSC-accepted third party conformity assessment bodies, in the normal course of renewing their accreditations, are expected to update the scope of the testing laboratories' accreditations to reflect the revised standard. Thus, laboratories will begin testing to the new standard when ASTM F2549-22 goes into effect, and the existing accreditations that the Commission has accepted for testing to this standard will cover testing to the revised standard.

F. Direct Final Rule Process

The Commission is issuing this rule as a direct final rule. Although the Administrative Procedure Act (APA; 5 U.S.C. 551-559) generally requires agencies to provide notice of a rule and an opportunity for interested parties to comment on it, section 553 of the APA provides an exception when the agency "for good cause finds" that notice and comment are "impracticable, unnecessary, or contrary to the public interest." *Id.* 553(b)(B). The Commission concludes that when it updates a reference to an ASTM standard that the Commission incorporated by reference under section 104(b) of the CPSIA, notice and comment are not necessary.

Specifically, under the process set out in section 104(b)(4)(B) of the CPSIA, when ASTM revises a standard that the Commission has previously incorporated by reference under section 104(b)(1)(B) of the CPSIA, that revision will become the new CPSC standard, unless the Commission determines that ASTM's revision does not improve the safety of the product. Thus, unless the Commission makes such a determination, the ASTM revision, by operation of law, becomes CPSC's standard. The Commission is allowing ASTM F2549-22 to become CPSC's new standard because its provisions improve product safety. The purpose of this direct final rule is to update the Code of Federal Regulations (CFR) so that it reflects the version of the standard that takes effect by statute. This rule updates the reference in the CFR, but under the terms of the

CPSIA, ASTM F2549-22 takes effect as the new CPSC standard for frame child carriers, even if the Commission does not issue this rule. Thus, public comments would not alter substantive changes to the standard or the effect of the revised standard as a consumer product safety standard under section 104(b) of the CPSIA. Under these circumstances, notice and comment are unnecessary.

In Recommendation 95-4, the Administrative Conference of the United States (ACUS) endorses direct final rulemaking as an appropriate procedure to expedite rules that are noncontroversial and not expected to generate significant adverse comments. *See* 60 FR 43108 (Aug. 18, 1995). ACUS recommends that agencies use the direct final rule process when they act under the "unnecessary" prong of the good cause exemption in 5 U.S.C. 553(b)(B). Consistent with the ACUS recommendation, the Commission is publishing this rule as a direct final rule, because CPSC does not expect any significant adverse comments.

Unless CPSC receives a significant adverse comment within 30 days of this notification, the rule will become effective on December 3, 2022. In accordance with ACUS's recommendation, the Commission considers a significant adverse comment to be "one where the commenter explains why the rule would be inappropriate," including an assertion challenging "the rule's underlying premise or approach," or a claim that the rule "would be ineffective or unacceptable without a change." 60 FR 43108, 43111 (Aug. 18, 1995). As noted, this rule merely updates a reference in the CFR to reflect a change that occurs by statute, and public comments should address this specific action.

If the Commission receives a significant adverse comment, the Commission will withdraw this direct final rule. Depending on the comment and other circumstances, the

Commission may then incorporate the adverse comment into a subsequent direct final rule or publish a notice of proposed rulemaking, providing an opportunity for public comment.

G. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA; 5 U.S.C. 601-612) generally requires agencies to review proposed and final rules for their potential economic impact on small entities, including small businesses, and to prepare regulatory flexibility analyses. 5 U.S.C. 603, 604. The RFA applies to any rule that is subject to notice and comment procedures under section 553 of the APA. *Id.* As discussed in section **F. Direct Final Rule Process** of this preamble, the Commission has determined that notice and the opportunity to comment are unnecessary for this rule. Therefore, the RFA does not apply. CPSC also notes the limited nature of this document, which merely updates the incorporation by reference to reflect the mandatory CPSC standard that takes effect under section 104 of the CPSIA.

H. Paperwork Reduction Act

The current mandatory standard for frame child carriers includes requirements for marking, labeling, and instructional literature that constitute a "collection of information," as defined in the Paperwork Reduction Act (PRA; 44 U.S.C. 3501-3521). Although the revised mandatory standard revises existing marking and labeling, and instructional literature language for frame child carriers, the revisions would not add to the burden hours because the products already require marking, labeling, and instructional literature. The new requirements merely require new words or wording changes to language already required by the standard for frame child carriers. Therefore, the new requirements are not more burdensome than the existing requirements.

The Commission took the steps required by the PRA for information collections when it promulgated 16 CFR part 1230, and the marking, labeling, and instructional literature for frame child carriers is currently approved under OMB Control Number 3041-0159. Because the information collection burden is unchanged, the revision does not affect the information-collection requirements or approval related to the standard.

I. Effective Date

Under the procedure set forth in section 104(b)(4)(B) of the CPSIA, when a voluntary standards organization revises a standard that the Commission adopted as a mandatory standard, the revision becomes the CPSC standard 180 days after notification to the Commission, unless the Commission timely notifies the standards organization that it has determined that the revision does not improve the safety of the product, or the Commission sets a later date in the *Federal Register*. 15 U.S.C. 2056a(b)(4)(B). The Commission is taking neither of those actions with respect to the standard for frame child carriers. Therefore, ASTM F2549-22 will take effect as the new mandatory standard for frame child carriers on December 3, 2022, 180 days after June 6, 2022, when the Commission received notice of the revision.

J. Preemption

Section 26(a) of the CPSA provides that where 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 requirement dealing with the same risk of injury unless the state requirement is identical to the federal standard. 15 U.S.C. 2075(a). Section 26(c) of the CPSA also provides that states or political subdivisions of states may apply to CPSC for an exemption from this preemption under certain circumstances. Section 104(b) of the CPSIA deems rules issued under

that provision "consumer product safety standards." Therefore, once a rule issued under section 104 of the CPSIA takes effect, it will preempt in accordance with section 26(a) of the CPSA.

K. Environmental Considerations

The Commission's regulations provide a categorical exclusion for the Commission's rules from any requirement to prepare an environmental assessment or an environmental impact statement where they "have little or no potential for affecting the human environment." 16 CFR 1021.5(c)(2). This rule falls within the categorical exclusion, so no environmental assessment or environmental impact statement is required.

L. Congressional Review Act

The Congressional Review Act (CRA; 5 U.S.C. 801-808) states that before a rule may take effect, the agency issuing the rule must submit the rule, and certain related information, to each House of Congress and the Comptroller General. 5 U.S.C. 801(a)(1). The CRA submission must indicate whether the rule is a "major rule." The CRA states that the Office of Information and Regulatory Affairs determines whether a rule qualifies as a "major rule."

Pursuant to the CRA, this rule does not qualify as a "major rule," as defined in 5 U.S.C. 804(2). To comply with the CRA, CPSC will submit the required information to each House of Congress and the Comptroller General.

List of Subjects in 16 CFR Part 1230

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

For the reasons discussed in the preamble, the Commission amends 16 CFR chapter II as follows:

PART 1230 – SAFETY STANDARD FOR FRAME CHILD CARRIERS

1. The authority citation for part 1230 continues to read as follows:

Authority: The Consumer Product Safety Improvement Act of 2008, Pub. L. 110-314, § 104, 122 Stat. 3016 (August 14, 2008); Pub. L. 112-28, 125 Stat. 273 (August 12, 2011).

2. Revise § 1230.2 to read as follows:

§ 1230.2 Requirements for Frame Child Carriers.

Each frame child carrier must comply with all applicable provisions of ASTM F2549-22, *Standard Consumer Safety Specification for Frame Child Carriers,* approved on approved April 1, 2022. 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. A read-only copy of the standard is available for viewing on the ASTM website at https://www.astm.org/READINGLIBRARY/. You may obtain a copy from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959; telephone (610) 832-9585; www.astm.org. You may inspect a copy at the Office of the Secretary, U.S. Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, MD 20814, telephone (301) 504-7479, e-mail cpsc-os@cpsc.gov, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, e-mail fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Dated: _____

_____

Alberta E. Mills, Secretary

Consumer Product Safety Commission

United States
Consumer Product Safety Commission

This document has been electronically approved and signed

MEMORANDUM

Date: August 10, 2022

TO : The Commission
Alberta E. Mills, Secretary

THROUGH: Austin C, Schlick, General Counsel
Jason K. Levine, Executive Director
DeWane Ray, Deputy Executive Director for Safety Operations

FROM : Duane E. Boniface, Assistant Executive Director
Office of Hazard Identification and Reduction

Kevin K. Lee, Mechanical Engineer
Division of Mechanical and Combustion Engineering
Directorate for Engineering Sciences

SUBJECT : Consumer Product Safety Improvement Act of 2008 (CPSIA), as revised by Pub. L. No. 112-28, Notice of Revision to the Safety Standard for Frame Child Carriers (16 CFR part 1230)

I. INTRODUCTION

On March 2, 2015, the Commission published a final rule issuing a mandatory standard for frame child carriers that incorporated by reference ASTM F2549-14a, *Standard Consumer Specification for Frame Child Carriers*. 80 FR 11121 (Mar. 2, 2015). The final rule is codified in 16 CFR part 1230. The standard addresses falls of a child occupant from a child carrier that has a frame and is worn on the back of the caregiver's body (with the carrier and child suspended from both shoulders of the caregiver).

On April 1, 2022, ASTM approved its first revision of ASTM F2549-14a. ASTM published this revised standard, ASTM F2549-22, in May 2022 and notified CPSC of the revision on June 6, 2022.[1] On June 16, 2022, the Commission published in the Federal Register a Notice of Availability, requesting comment on whether the revision improves the safety of frame child carriers (87 FR 36311). Public comment closed on June 30, 2022, and CPSC did not receive any comments. The revised standard will take effect as the new mandatory standard on December 3, 2022, unless the Commission specifies a later date in the *Federal Register* or notifies ASTM by September 4, 2022, that it has determined that the revision does not improve the safety of frame child carriers. *See* 15 U.S.C. 2056a(b)(4)(B).

[1] Voluntary standards organizations must notify CPSC of revisions to voluntary standards that have been adopted as part of a consumer product safety standard pursuant to 15 U.S.C. 2056a.

This memorandum outlines the differences between ASTM F2549-22 and F2549-14a. Based on staff's evaluation of the revised voluntary standard, staff recommends that the Commission allow ASTM F2549-22 to be considered the new consumer product safety standard for frame child carriers because it improves safety. Additionally, staff recommends that the Commission issue a direct final rule to update the incorporation by reference in part 1230 to ASTM F2549-22 if the Commission allows the revision to become the mandatory standard.

II. DISCUSSION

The CPSC's current mandatory Safety Standard for Frame Child Carriers in 16 CFR part 1230 incorporates by reference ASTM F2549-14a, with no modifications.

After publishing ASTM F2049-14a, ASTM convened the ASTM Ad Hoc Wording Task Group (Ad Hoc TG), consisting of members of various durable nursery product voluntary standards committees, including CPSC staff. The Ad Hoc TG's purpose was to harmonize the wording of common sections (*e.g.*, introduction, scope, protective components) and warning label requirements across durable infant and toddler product voluntary standards. CPSC's Human Factors Division subject matter expert represented CPSC staff in this task group. The revisions to ASTM F2049 are consistent with Revision F of the approved language of the Ad Hoc Language Task Group, which was published on November 20, 2020. This revision is titled, "Recommended Language Approved by Ad Hoc Task Group, Revision F."

Changes to the standard from ASTM F2549-14a to ASTM F2549-22 included substantive and non-substantive changes. These changes consist of revising the load condition in the Dynamic Strength Test and Stability Test, increasing the applied torque in the Torque Test, replacing the test torso, harmonizing the warning label with the standard's scope, adding additional flammability requirements for fabric components of the product, and applying several minor language revisions. Staff concludes that these changes collectively improve the safety of frame child carriers, and none has a material adverse effect on safety. Below is a detailed discussion of the substantive and non-substantive changes made to ASTM F2549-14a.

Substantive changes in ASTM F2549-22:

ASTM F2549-22 made the following substantive changes to ASTM F2549-14a:

1. In section 5.12, the revised standard adds flammability requirements for fabric components of the frame carrier, in addition to the existing flammability requirements for solid components of the frame carrier (as determined by 16 CFR 1500.3(c)(6)(vi)). The new requirements for fabric components of the frame carrier specify: "There shall be no Class 2 or 3 fabrics used in the construction of a frame child carrier when the fabrics are evaluated against the requirements of 16 CFR 1610." In other words, it only permits the

use of Class 1 fabrics, which have a lower flammability that is acceptable for use in clothing.

The regulation at 16 CFR part 1610 is an ignition test that measures the time it takes for a fabric sample to ignite when a flame is applied. Class 2 and Class 3 fabrics ignite in less time than Class 1 fabrics; therefore, they are more flammable. The revised standard only permits the use of Class 1 fabrics, which exhibit the longest time to ignite (and therefore, are the least flammable fabric class) and are rated for use in clothing. Staff concludes that this change improves the safety of frame child carriers because it ensures that fabric components of the frame carrier meet the most stringent flammability requirements for fabrics.

2. The revised standard adds a requirement in section 5.12.3 under 5.12 *Flammability of Frame Child Carriers* that states, "Non-toy accessories that are sold with and intended to be attached to the product shall also meet the requirement of 5.12."

   Staff concludes that this change improves the safety of frame child carriers because it ensures that non-toy accessories, such as sunshades, hoods, and bibs meet the most stringent flammability requirements for solids and fabrics.

3. Figure 5 in the revised standard specifies a drawing of a rigid torso with dimensions, which replaces a generic photo of a typical torso that is use for training (see Figure 1). The rigid test torso with dimensions aligns with the test torso specified in other standards for child carrier products (ASTM F2907-19- Standard Consumer Safety Specification for Sling Carriers, the EN 13209-1 Child care articles. Child carriers. Safety requirements and test methods Framed back carrier, and EN 13209-2 Child use and care articles – Baby carriers- Safety requirements and test methods – Part 2: Soft carrier). The new test torso is referenced in sections 7.2 *Dynamic Strength Test* and 7.3 *Static Load Test*.

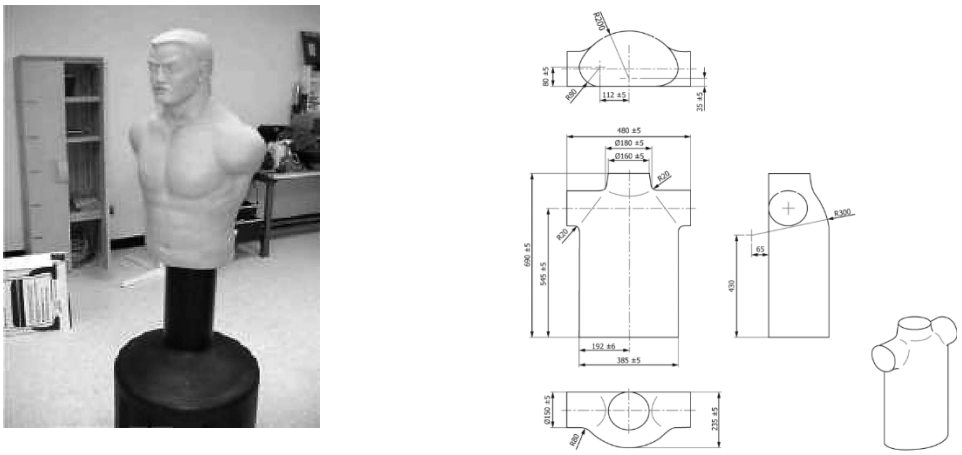


Figure 1. Test Torso Changed from generic photo (left) to drawing with dimensions (right).

The dynamic and static performance tests require attachment of the frame carrier to a test torso; however, the test results are determined by the magnitude and location of the force applied to the product in the static load and dynamic strength test and the results are not affected by minor changes to the structure to which the product is attached. Therefore, staff concludes the change to the test torso is neutral in safety.

4. In the 2022 version of the standard, ASTM revised multiple elements pertaining to dynamic strength, which staff assess improve safety. In section 6.2 *Dynamic Strength*, the revised standard adds to the dynamic strength requirements an evaluation of the system that attaches the frame carrier to the user's torso, in addition to the existing evaluation of the system that retains the child occupant in the frame carrier.

   The frame carrier's attachment system includes any straps or hardware that secures the frame carrier to the caregiver. The revised Dynamic Strength performance requirement now ensures that the frame carrier's attachment straps and buckles will not slip more than 1 inch after 90 cycles of up/down movement of the fully loaded frame carrier. Staff concludes that this change improves the safety of frame child carriers because it ensures that all straps related to the proper retention and orientation of the occupant (including both those within the product and those between the product and the caregiver) will not loosen to the point that the child occupant can fall from the product.

   In section 7.2 *Dynamic Strength Test*, sections 7.2.1 through 7.2.6 of the standard were revised. These changes consist of a new test torso and evaluating the attachment system as described above, adding weights to the external pockets, and modification of the test sequence.

   Section 7.2.3 states, "Pockets, pouches, and other carrying receptacles of the product shall be loaded with weight(s) up to the manufacturer's maximum recommended weight(s), in such a way that will create the most onerous test condition. The most onerous test condition may include no weight(s) or lower than maximum weight(s) in some receptacles." However, section 6.2 *Dynamic Strength* clarifies that "Seams of pockets, pouches, and other carrying receptacles are exempt from [the requirement prohibiting damage after the performance test]" because failure of these areas will not affect the retention and safety of the child occupant.

   The revised standard modifies section 7.2.5 under 7.2 *Dynamic Strength Test* to readjust or re-tighten all adjustable components such as straps in the occupant retention system and attachments to the test torso after completion of a 90-cycle vibration test and before the carrier is subjected to a 49,900 cycle vibration test. The test procedure in ASTM F2549-14a did not have the readjustment step before the 49,900 cycle vibration test.

In the ASTM F2549-14a version of the Dynamic Strength Test, the frame carrier is mounted on the test torso and the torso is vibrated by moving it 4.75 inches up and down to simulate use. The position of the carrier's adjustable occupant straps is marked after completing 10 cycles of 4.7 inches of vertical movement. Then an additional 90-cycle test is performed. If the adjustable occupant retention straps slip (loosen) more than 1 inch, the test is terminated because the retention straps failed to stay locked in place. If the carrier passes the 90-cycle test, the occupant straps are secured (using a clamp or other means to prevent additional slippage), without readjusting or tightening the straps. Then an additional 49,900 cycles are completed. This test further stresses the carrier's components such as the straps, buckles, fabric and frame. No part of the frame carrier that functions to retain the child occupant can fail (e.g. frame or fastener break or seams separate) after conducting the dynamic strength test.

As noted above, the new ASTM F2549-22 version of the Dynamic Strength Test has been revised to evaluate the frame carrier's adjustable attachment straps (which attach the frame carrier to the caregiver) such as the waist belt and shoulder straps in addition to the occupant straps. Similar to the previous ASTM F2529-14a test, the attachment straps are marked after completing 10 cycles of 4.75 inches of vertical movement. Then an additional 90-cycle test is performed. If the adjustable occupant retention straps and attachment straps/system slip (loosen) more than 1 inch, the carrier fails and the test is terminated. If the carrier passes the 90-cycle test, the new ASTM F2549-22 standard includes a step to readjust or tighten the adjustment straps to the position marked after 10 cycles. Similar to the previous standard the straps are secured (using a clamp or other means to prevent additional slipping) and an additional 49,900 cycles are completed.

In ASTM F2549-14a, the Dynamic Strength Test required 90 reciprocating cycles for the adjustment straps to test for slippage or loosening of the strap. During these 90 cycles, the adjustment straps could slip up to 1 inch, potentially shifting the carrier's position on the test torso and or shifting the test weights within the carrier. If the carrier is not centered and/or fits loosely on the torso or if the test weight is not centered in the carrier, an uneven load condition would exist. This potentially creates a more onerous condition by having one strap take more load and allowing the carrier and test weight to bounce, amplifying the stress during the remaining 49,900 cycles of loading.

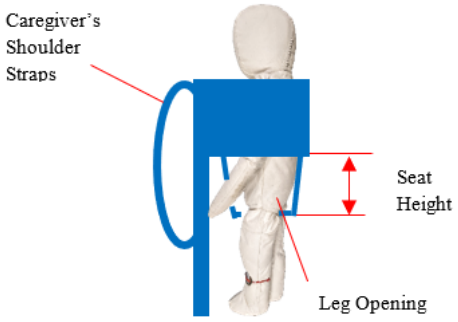
The revised Dynamic Strength Test in ASTM F2549-22, requires the adjustable straps in the occupant retention area and the attachment area to be readjusted after the 90-cycle test to the original position marked after 10 cycles. In this scenario, if the straps slip, the effects of looser fitting adjustment straps are not tested and could result in a less severe test condition as required under the ASTM F2549-14a version of the standard. If the

straps do not slip after the first 90 cycles, then both tests are equivalent. CPSC staff concludes the change of readjusting the occupant retention and attachment system straps after the 90-cycle test results in a less stringent test, however this is unlikely to affect the outcome of the test. Both tests require a total of 50,000 cycles which should fail any substandard strap, fastener or frame component whether tested with the strap fully tightened or loosened less than 1 inch.

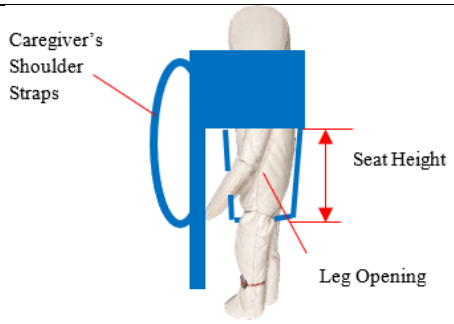
Staff concludes that the revised Dynamic Strength Test in ASTM F2549-22 improves the safety of frame child carriers because the new performance requirements tests the integrity of the attachment system (straps or hardware that secures the frame carrier to the caregiver) and by adding weights to the external pockets. The added weight increases the stress on the carriers seams, straps and frame during dynamic/cyclic testing.

One aspect of the revised test procedure is to retighten straps prior to the 49,900 cycle test could be considered a less severe test condition (than required in ASTM F2549-14a) if the straps loosened enough after 90 cycles of testing to require retightening. However, a looser adjustment strap is unlikely to affect the outcome of the test after 50,000 cycles of testing, and because the revised test conditions of an increased test load and evaluation of the attachment system are more stringent, staff considers the revision to 7.2 *Dynamic Strength Test* to be an improvement in safety.

5. Section 7.1.1 *Leg Openings Test*- The following non-mandatory note was removed: "If the manufacturer does not provide instructions for seat height, adjust the seat so that it results in CAMI's chin resting right above the edge of the frame carrier." This non-mandatory note was removed to avoid confusion potentially leading to the carrier not being tested under the most onerous condition, such as in the example below:



The frame carrier's seat is adjusted per the note (the dummy's chin is resting right above the edge of the frame carrier



The frame carrier's seat is adjusted lower (the dummy's nose is resting right above the edge of the frame carrier). As a result, the leg opening is larger in this scenario.

In some product designs, such as those shown in the figures above, the leg opening becomes larger as the seat is lowered. Therefore, lowering the seat in these designs can create the most onerous position for the *Leg Openings Test*. However, since this is an explanatory note, and not mandatory, and there is no change in the requirements to test in the most onerous condition, staff assesses that it has no impact on safety.

6. The revised standard modifies sections 7.4.3 and 7.4.4 under 7.4 *Stability Test* to increase the test load from "at least 40 lb (18.1 kg)" to "40 lb (18.1 kg) or equal to the manufacturer's maximum recommended weight for the occupant, if greater."

   Staff concludes that this change improves the safety of frame child carriers because it increases the test weight used in the stability test for some frame child carriers. Increasing the test weight increases the center of gravity height used in the stability test. As the center of gravity increases, the tested product is more likely to tip over and fail. Therefore, the change makes the stability test more stringent.

7. The revised standard modifies section 7.10.3 *Torque Test* in section 7.10 *Removal of Protective Components Test* to increase the applied torque from 2 lbf-in to 4 lbf-in. The torque is applied clockwise to any component that is graspable in a child's hand or teeth or if there is at least .04 inch gap between the component and its adjacent component.

   Staff concludes that this change improves the safety of frame child carriers because it increases the torque applied to components that may come loose when grasped by a child. This change makes the standard more stringent because it reduces the likelihood of a part coming loose and becoming accessible to a child.

8. The revised standard creates a new section 8.5 *Warning Statements* in section 8. *Marking and Labeling* with the following guidelines:

   - Add an explicit description of the fall hazard related to a child slipping through the leg opening of the frame carrier.
   - Increase recommended maximum child weight range from "40 lbs (or the maximum child weight recommended by the manufacturer, if less)" to "50 lbs (22.7 kg) (or the maximum weight recommended by the manufacturer, if less)." This change aligns the warning label with the scope of ASTM F2549, which states a "frame carrier is intended for use with a child that is able to sit upright unassisted and weighs between 16 lb and 50 lb (7.3 kg and 22.7 kg)."
   - Add a clarification that the maximum overall weight recommendation for the product includes the cargo in pockets/pouches in addition to the weight of the

child occupant.The maximum overall weight statement shall immediately follow recommended occupant weight statement.

- Add a new Figure of an exemplar warning label that illustrates the guidelines specified in section 8.5.

Staff concludes that these changes to warnings and instructions improve the safety of frame child carriers because they harmonize the maximum weight stated in the warning label with the maximum weight stated in the standard's scope and clarifies the fall hazard in the warning label. The scope of the 2009 version of the standard (F2549-09) included products that could carry users up to 40 pounds. When the standard was updated to include products that could carry users up to 50 pounds, in F2549-13, this warning label was not updated to reflect this change, and that issue persisted in the F259-14a version that is incorporated by reference in the Commission's rule. The 2022 version of ASTM F2549 remedies this, aligning the warning label with the updated 50-pound limit from 2013. In addition, this change adds a required warning label informing consumers of the product's maximum allowed weight (child + cargo), and thus is an improvement in safety.

In conclusion, most of the substantive changes made in ASTM F2549-22 are an improvement to the safety of frame child carriers. These changes introduce more stringent requirements or more stringent test conditions for flammability, leg hole openings, dynamic strength tests (to evaluate product durability and strap slippage), static stability tests, and torque test to evaluate graspable parts. Overall, the changes increase the stringency of requirements that ensure safe retention of the child occupant, ensure the flame resistance of the product, and esure parts do not separate and pose choke hazards. Therefore, staff concludes that these changes improve the safety of frame child carriers.

Non-substantive changes in ASTM F2549-22:

ASTM F2549-22 makes several non-substantive changes to the standard as follows:

1. Section 5.5 *Scissoring, Shearing, and Pinching,* contains an Ad-Hoc revision that makes the following changes (underlined text is added text and ~~strike through text~~ is deleted text) "Scissoring, shearing, or pinching that may cause injury ~~shall not be permissible~~ exists when the edges of ~~any~~ the rigid parts admit a probe greater than 0.210 in. (~~5.3~~(5.33 mm) and less than 0.375 in. (~~9.50~~(9.53mm) in diameter at any accessible point throughout the range of motion of such parts." This portion of section 5.5 is not a performance requirement but rather explains how to identify a scissoring, shearing, or pinching hazard. Therefore, changing "shall not be permissible" to "exists" does not remove or change any general requirements that are found in section 5. Additionally, the preceding text of section 5.5 still states that products "shall be designed and constructed so as to prevent injury to the occupant from any scissoring, shearing, or pinching when

members or components rotate about a common axis or fastening point, slide, pivot, fold, or otherwise move relative to one another." This preceding text ensures that all frame child carriers are evaluated for the scissoring, shearing, and pinching hazards. Therefore, staff considers this to be a non-substantive revision.

2. Modify the section 5.8 *Locking and Latching* performance requirement to exempt the frame child carrier's kickstand. Section 5.8 references section 7.8 *Locking Device Test*, where the locking device shall not unlock when a 10 lbf force is gradually applied in the direction tending to unlock it.

   Kickstands are separately required to meet section 5.9 *Unintentional Folding* performance requirement, which references section 7.9 *Unintentional Folding Test.* In the *Unintentional Folding Test,* the frame child carrier's seat is loaded with a 16-pound weight (or, if greater, the manufacturer's minimum recommended child weight), and the kickstand shall not fold when a 10 lbf force is gradually applied in the direction tending to fold it.

   The *Unintentional Folding Test* referenced in the *Unintentional Folding* performance requirement is equivalent to the *Locking Device Test* referenced in the *Locking and Latching* performance requirement and better simulates the hazard loading condition of a frame child carrier's kickstand unintentionally folding. Therefore, staff concludes that this modification does not affect safety.

3. The revised standard adds a requirement to section 6.2 *Dynamic Strength* that the frame carrier "shall show no damage that will impair its function" in addition to the existing requirement that the frame carrier "shall not create a hazardous condition, such as frame or fasteners breaking or disengaging or seams separating" after the dynamic strength tests have been completed. Improper function of the frame carrier is a potentially hazardous condition if it affects retention of the child occupant. Staff concludes that adding impaired functioning as an example of a hazardous condition is neutral in safety because it does not change the primary requirement that prohibits the creation of a hazardous condition in the frame carrier after 50,000 cycles of testing.

4. Clarifies section 7.2.3 of section 7.2 *Dynamic Strength Test* by replacing "alternating vertical movement at amplitude of 4.7 inches and a frequency of 2 cycles/second (Hz)" to "alternating vertical sinusoidal movement through 4.75 inches at a frequency of 2 Hz."

Originally, section 7.2.3 was intended to describe the vertical reciprocating movement of a frame carrier that moved up and down by 4.7 inches. Typically test labs, including CPSC, use a slider-crank linkage mechanism that converts the rotational motion from a motor shaft to a vertical reciprocating motion; see the below Figure 2 example. The reciprocating vertical motion of the frame carrier follows the path of a sine wave.

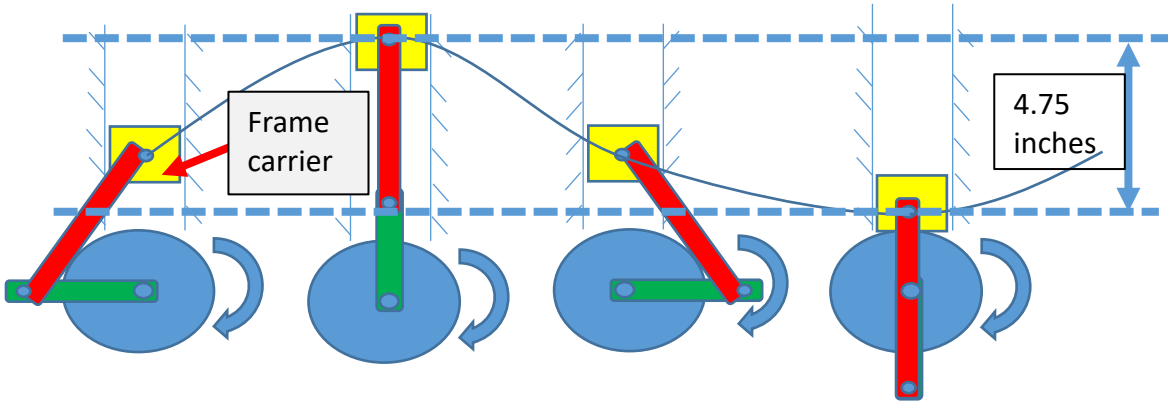


Figure 2. The vertical reciprocating movement of a frame carrier on a slider-crank mechanism

The revision to the *Dynamic Strength Test* adds a better description of the vertical motion. Sinusoidal movement through 4.75 inches describes the vertical movement of the frame carrier in the shape of a sine curve as it raises and lowers by 4.75 inches. The revised wording better describes the vertical movement of the frame carrier during the test; therefore, staff considers this a non-substantive revision.

5. Section 8.4. *Warning Design for Product* incorporates the ASTM ad hoc recommendations for the design and layout of warnings.

Staff finds all of the non-substantive changes made in ASTM F2549-22 regarding safety for frame child carriers do not impact safety because they are editorial in nature or modify a non-mandatory note that merely provides explanatory material.

Staff's Assessment of the Revised Voluntary Standard

Under CPSIA section 104(b)(4)(B), unless the Commission determines that ASTM's revision to a voluntary standard that is referenced in a mandatory standard *"does not improve the safety of the consumer product covered by the standard,"* the revised voluntary standard becomes the new mandatory standard. As detailed in the staff assessment above of ASTM F2549-22, the substantive changes made in ASTM F2549-22 introduce more stringent requirements or more stringent test conditions for flammability, leg hole openings, dynamic strength tests (to evaluate product durability and strap slippage), static stability tests, and torque test to evaluate graspable parts. Overall, the changes increase the stringency of requirements that ensure safe retention of the child occupant, ensure the flame resistance of the product, and ensure parts do not separate

and pose choke hazards. No aspect of the revision materially reduces safety. Therefore, staff concludes that these changes improve the safety of frame child carriers.

Staff also recommends that the Commission publish the draft direct final rule to revise the incorporation by reference in 16 C.F.R. part 1230 to the revised voluntary standard, ASTM F2549-22.

Effect of the Changes to the Voluntary Standard on Third-Party Testing

The notice of requirements (NOR), as set forth in the final rule for frame child carriers, provides the criteria and process for the Commission's acceptance of accreditation of third-party conformity assessment bodies for testing to the requirements of frame child carriers in 16 C.F.R. part 1230 (which incorporated ASTM F2549-14a). The NORs are listed in the Commission's rule, "Requirements Pertaining to Third Party Conformity Assessment Bodies" at 16 C.F.R. part 1112.

Staff recommends that the Commission consider the existing accreditations that CPSC accepted for testing to the mandatory standard for frame child carriers to cover testing to the revised standard. The CPSC-accepted testing laboratories that have ASTM F2549-14a in their scope of accreditation are competent to conduct testing to the ASTM F2549-22. Fourteen of the seventeen testing laboratories that are currently CPSC-accepted to conduct testing for frame child carriers are also CPSC-accepted to conduct testing for sling carriers. Therefore, those fourteen laboratories already possess the revised test torso required for testing to ASTM F2549-22. Staff expects the three other laboratories to be able to acquire the new test torso (if they don't already have it) before the recommended effective date. Staff also expects laboratories to be able to create or modify equipment for the *Dynamic Strength Test*'s modified loading requirements and to be able to update their procedures to align with the revised standard. Therefore, none of the changes to the standard would impede a CPSC-accepted laboratory from being able to conduct testing to the revised standard. If the Commission accepts this recommendation, the existing NOR for this standard would remain in place, and CPSC-accepted third-party conformity assessment bodies for frame child carriers would be expected to update the scope of the testing laboratories' accreditation to reflect the revised standard in the normal course of renewing their accreditation. If the Commission approves the draft direct final rule, CPSC staff will notify all CPSC-accepted laboratories by e-mail and will provide links to the *Federal Register* notice to explain the changes to the standard and the effective date.

Effective Date

Section 104(b)(4) of the CPSIA provides that the revised standard will become effective 180 days after the date on which an organization notifies the Commission of the revision (here, June 6, 2022), unless the Commission timely notifies the organization that it determined a proposed revision does not improve the safety of a consumer product covered by the standard (or the

Commission specifies another date). Under this time frame, if the Commission does not reject the revision on or before September 4, 2022, ASTM F2549-22 will become effective on December 3, 2022, unless the Commission specifies a later date. Staff does not believe that a longer effective date is necessary. The Juvenile Products Manufacturers Association typically allows 6 months for products in their certification program to shift to a new voluntary standard once that new voluntary standard is published. Therefore, juvenile product manufacturers are accustomed to adjusting to new voluntary standards within this time frame. ASTM F2549-22 was approved and published in April 2022, and staff believes that manufacturers should be able to make compliant products that meet this standard by December 3, 2022.

III. RECOMMENDATION

Staff recommends allowing ASTM F2549-22 to become the new mandatory standard for frame child carriers effective on December 3, 2022.