



Ballot Vote Sheet

TO: The Commission
Alberta E. Mills, Secretary

THROUGH: Mary T. Boyle, Executive Director
Pamela J. Stone, Acting General Counsel

FROM: Daniel R. Vice, Assistant General Counsel,
Regulatory Affairs
Hyun S. Kim, Attorney, Regulatory Affairs

SUBJECT: ASTM's Revised Safety Standard for Carriages and
Strollers

DATE: October 27, 2021

BALLOT VOTE DUE: Tuesday, November 2, 2021

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 Carriages and Strollers, codified in 16 CFR part 1227. In 2014, the Commission issued the mandatory standard under the Consumer Product Safety Improvement Act of 2008 (CPSIA), incorporating by reference ASTM F833-13b, *Standard Consumer Safety Performance Specification for Carriages and Strollers*, and has since updated the standard several times. Under the CPSIA, when ASTM revises 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 notifies the voluntary standards organization. ASTM updated the voluntary standard for carriages and strollers, issuing ASTM F833-21, and notified the Commission of the revised standard. Staff recommends that the Commission allow the revised voluntary standard to become the mandatory standard and publish a direct final rule to revise part 1227 to reference ASTM F833-21. Attached for Commission consideration is a draft *Federal Register* notice for that purpose. If approved by the Commission, OGC will send the notice to the *Federal Register* for publication after we receive approval of the incorporation by reference from the Office of the Federal Register.



Ballot Vote Sheet

Please indicate your vote on the following options:

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

(Signature)

(Date)

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

(Signature)

(Date)

- III. Do not approve publication of the attached notice in the *Federal Register*.

(Signature)

(Date)



Ballot Vote Sheet

IV. Take other action specified below.

(Signature)

(Date)

Attachment: Draft *Federal Register* notice: Safety Standard for Carriages and Strollers

[Billing Code 6355-01-P]

CONSUMER PRODUCT SAFETY COMMISSION

[Docket No. CPSC-2013-0019]

16 CFR Part 1227

Safety Standard for Carriages and Strollers

AGENCY: Consumer Product Safety Commission.

ACTION: Direct final rule.

SUMMARY: In March 2014, the U.S. Consumer Product Safety Commission (CPSC) published a consumer product safety standard for carriages and strollers under section 104 of the Consumer Product Safety Improvement Act of 2008 (CPSIA). The CPSIA sets forth a process for updating mandatory standards for durable infant or toddler products that are based on a voluntary standard when a voluntary standards organization revises the standard. This direct final rule updates the mandatory standard for carriages and strollers to incorporate by reference ASTM's 2021 version of the voluntary standard.

DATES: The rule is effective on February 15, 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 February 15, 2022.

ADDRESSES: You may submit comments, identified by Docket No. CPSC- 2013-0019, 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. The CPSC does not accept comments submitted by electronic mail (e-mail), except through <https://www.regulations.gov> and as described below. The CPSC encourages you to submit electronic comments by using the Federal eRulemaking Portal, as described above.

Mail/hand delivery/courier Written Submissions: Submit comments by mail/hand delivery/courier to: Division of the Secretariat, Consumer Product Safety Commission, 4330 East West Highway, Bethesda, MD 20814; telephone (301) 504-7479. Alternatively, as a temporary option during the COVID-19 pandemic, you can email such submissions to: cpsc-os@cpsc.gov.

Instructions: All submissions received must include the agency name and docket number for this notice. All comments received may be posted without change, including any personal identifiers, contact information, or other personal information provided, to: <https://www.regulations.gov>. Do not submit electronically confidential business information, trade secret information, or other sensitive or protected information that you do not want to be available to the public. If you wish to submit such information, please submit it according to the instructions for written submissions.

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-2013-0019, into the “Search” box, and follow the prompts.

FOR FURTHER INFORMATION CONTACT: Keysha Walker, Compliance Officer, Office of Compliance and Field Operations, Consumer Product Safety Commission, 4330

East West Highway, Bethesda, MD 20814-4408; telephone: 301-504-6820; email:
kwalker@cpsc.gov.

SUPPLEMENTARY INFORMATION:

A. Background

1. Statutory Authority

Section 104(b)(1)(B) of the CPSIA, also known as the Danny Keysar Child Product Safety Notification Act, requires the Commission to promulgate consumer product safety standards for durable infant or toddler products. The law requires these standards to be “substantially the same as” applicable voluntary standards or more stringent than the voluntary standards if the Commission concludes that more stringent requirements would further reduce the risk of injury associated with the product.

The CPSIA also sets forth a process for updating CPSC’s durable infant or toddler standards when the voluntary standard upon which the CPSC standard was based is changed. Section 104(b)(4)(B) of the CPSIA provides that if an organization revises a standard that has been adopted, in whole or in part, as a consumer product safety standard under this subsection, it shall notify the Commission. In addition, the revised voluntary standard shall be considered to be a consumer product safety standard issued by the Commission under section 9 of the Consumer Product Safety Act (CPSA) (15 U.S.C. 2058), effective 180 days after the date on which the organization notifies the Commission (or such later date specified by the Commission in the Federal Register) unless, within 90 days after receiving that notice, the Commission notifies the organization that it has determined that the proposed revision does not improve the safety

of the consumer product covered by the standard and that the Commission is retaining the existing consumer product safety standard.

2. The Carriage and Stroller Standard

On March 10, 2014, the Commission published a final rule issuing a standard for carriages and strollers that incorporated by reference the standard in effect at that time, ASTM F833-13b, with a modification to address potential hazardous openings created by adjustable grab bar/tray and foot rest configurations. 79 FR 13208. The standard was codified in the Commission's regulations at 16 CFR part 1227. There have been several revisions to the ASTM standard. On June 9, 2016, the Commission incorporated by reference ASTM F833-15, as the mandatory standard for carriages and strollers. 81 FR 37128. On August 2, 2019, the Commission incorporated by reference ASTM F833-19, as the mandatory standard for carriages and strollers. 84 FR 37763. ASTM F833-19 is the current mandatory standard incorporated by reference in 16 CFR part 1227.

On August 19, 2021, ASTM notified CPSC that it had revised the voluntary standard for carriages and strollers, approving ASTM F833-21 on June 15, 2021.¹ As discussed in this preamble, based on CPSC staff's review of ASTM F833-21, the Commission will allow the revised voluntary standard to become the mandatory standard because the revised requirements in the voluntary standard either improve the safety of carriages and strollers, or are safety neutral. Accordingly, by operation of law under section 104(b)(4)(B) of the CPSIA, ASTM F833-21 will become the mandatory consumer product safety standard for carriages and strollers on February 15, 2022. 15

¹ ASTM published ASTM F833-21 in August 2021.

U.S.C. 2056a(b)(4)(B). This direct final rule updates 16 CFR part 1227 to incorporate by reference the revised voluntary standard, ASTM F833-21.

B. Revisions to ASTM F833

The ASTM standard for carriages and strollers establishes performance requirements, test methods, and labeling requirements to address hazards to children associated with carriages and strollers including stability, brakes, restraint systems, latches and folding mechanisms, structural integrity, cords, wheel detachments, and entrapment. ASTM has revised the ASTM F833-19 voluntary standard for carriages and strollers. On June 15, 2021, ASTM approved a revised version, ASTM F833-21, which was published in August 2021. This section describes the changes in ASTM F833-21. The 2021 revision contains editorial, non-substantive changes, as well as several substantive changes to improve the requirements. We summarize the differences and the CPSC’s assessment of the revisions below.

1. Substantive Changes

Allowance for a concrete floor test surface

ASTM F833-19 Section 4.1 specifies that testing be conducted “on a concrete floor that shall be covered with 1/8-in. (3-mm) thick vinyl floor covering, unless test instructs differently.” ASTM F833–21 replaces, in section 4.1, the word “shall” with “may,” allowing for testing on the originally specified surface, or on an uncovered concrete floor. This change applies to all carriages and stroller tests, except parking brake testing (Section 7.6), which is conducted on a horizontal test surface covered with 60 grit sandpaper, and wheel detachment from axle testing (Section 7.13.1), which is conducted on a table.

CPSC staff assessed the effect of the new test surface requirement and found that the allowing for testing on the originally specified surface, or on an uncovered concrete floor, did not have an impact on test results. Staff concluded that the allowance for an uncovered concrete floor test surface in addition to the current concrete floor covered with 1/8-inch-thick vinyl floor test surface does not affect the safety of carriages and strollers, because test results should be the same on either surface. In addition, staff determined that the revised language would be consistent with other ASTM juvenile product standards. Based on staff's assessment, the Commission concludes that the new test surface requirement is neutral with respect to the safety of carriages and strollers.

Summary List of References on combination unit of a car seat on a stroller

ASTM F833-19 provided the impact test in Section 6.7.1 with its corresponding test method in Section 7.11, and the head entrapment requirement in Section 6.10 with its test method in 7.18. However, these sections were not included in the summary list of requirements that apply to a combination unit of a car seat on a stroller in Section 6.6.1. ASTM F833-21 now adds references to Section 6.7.1 and Section 6.10, as well as their corresponding test methods, to the list of requirements in Section 6.6.1. Section 6.7.1 applies to a "combination unit of a car seat on a carriage, stroller, or convertible carriage/stroller" and Section 6.10 applies to a "combination unit of a rear-facing car seat on a stroller or convertible carriage/stroller." Staff's review showed that the additions to the list of requirements that apply to a combination unit of a car seat on a stroller in Section 6.6.1 is neutral with respect to safety and does not affect the safety of carriages and strollers, because there are no changes to the requirements, test methods, or category of product to which they apply. This addition simply restates the requirements with

which a combination unit of a car seat on a stroller must conform. Based on staff's assessment, the Commission concludes that the addition of the references is neutral to the safety of carriages and strollers.

Addition of parking brake mechanism test methods

ASTM F833–19 section 6.1.3 specifies that “[e]ach parking brake shall be constructed so that it cannot be disengaged by the child within the unit when the child is secured in the unit in accordance with the instructional literature.” ASTM F833-21 replaces this text and adds three alternative test methods in new sections 6.3.1.1, 6.3.1.2, and 6.3.1.3, for evaluating the parking brake release mechanism for each seating position of the product as follows:

- Section 6.3.1.1: Each parking brake mechanism is outside of the access zone, which is defined as: the volume above the seat within a 21.7-inch radius from the mid-point of the junction line on the uncompressed upper surface of the seat unit and extending 21.5 inches to each side (as shown in Figure 7 of ASTM F833–21) and a 2-inch band extending inward from each side of the seat/leg rest edge and downward for 5.9 inches from the uncompressed upper surface of the seat (as shown in Figure 8 of ASTM F833–21). The space located behind the backrest is excluded from the parking brake access zone for single-occupant strollers but is included for multi-occupant product configurations if it enters another parking brake access zone.
- Section 6.3.1.2: The parking brake release mechanism consists of one single-action release mechanism that shall not be released when a force of

10 lbf (45 N) or a torque of 3 lbf-in. (0.34 Nm) is applied directly to the release mechanism in the direction tending to release it.

- Section 6.3.1.3: The parking brake release mechanism is a double-action release mechanism, which is defined in ASTM F833–21 as, “a release mechanism that requires either two consecutive actions, the first of which must be maintained while the second is carried out, or two separate and independent single-action locking mechanisms that must be activated simultaneously to fully release.”

Staff’s review of ASTM F833–19, shows that existing section 6.1.3, which provides that “[e]ach parking brake shall be constructed so that it cannot be disengaged by the child within the unit” lacks specificity and fails to provide a test protocol or evaluation method. The assessment of whether a child can disengage the parking brake is currently left up to the testing laboratory’s test personnel discretion, which could result in a lack of consistency and repeatability of testing between testing laboratories. Although staff is not aware of any incidents involving the child disengaging the parking brake, the potential for a child to disengage the parking brake is a foreseeable hazard. To address this hazard, ASTM F833–21 adds a test method that includes a defined access zone, a specific force and torque, and an evaluation of the mechanism that is based on similar testing used in other standards.

Staff’s assessment of section 6.3.1.1 shows that this test improves the safety of the standard by defining an access zone, and accounting for products with multiple seats that may provide easier access to the parking brake mechanism. Staff’s assessment of section 6.3.1.2 shows that this test improves safety by adding a force and torque requirement

where there was none previously. Finally, staff's review of the section 6.3.1.3 shows that although the specific reference to a double-action release mechanism was added in this section, the definition for a double-action release mechanism has been in existence since the ASTM F833–13a version of the standard. Staff's assessment shows that the addition of this reference in this section improves safety by specifying the basis for evaluating the parking brake system. Based on staff's assessment, the Commission concludes that the addition of parking braking mechanism test methods improves the safety of carriages and strollers.

2. Non-substantive Changes

ASTM made minor formatting changes to the ASTM F833-21 including:

(1) renumbering figures to account for two new parking brake figures (Figures 7 and 8 of ASTM F833–21), (2) addition of hyphens to compound adjectives, (3) addition of units to the first value in range, and (4) revision of punctuation and spacing. The Commission finds that all the non-substantive changes made in ASTM F833-21 are neutral regarding safety for carriages and strollers because they are editorial in nature.

Based on CPSC's review of ASTM F833-21, the Commission will allow the revised standard to become the mandatory standard for carriages and strollers, without modification. This direct final rule updates 16 CFR part 1227 to incorporate by reference the revised voluntary standard, ASTM F833-21.

C. Incorporation by Reference

Section 1227.2 of the direct final rule incorporates by reference ASTM F833-21. 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. 16 CFR 51.5(b).

In accordance with the OFR regulations, section **B. Revisions to ASTM F833**, of this preamble summarizes the major provisions of ASTM F833-21 that the Commission incorporates by reference into 16 CFR part 1227. The standard is reasonably available to interested parties. Until the direct final rule takes effect, a read-only copy of ASTM F833-21 is available for viewing 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 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 Division of the Secretariat, U.S. Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, MD 20814, telephone: 301-504-7479; email: cpsc-os@cpsc.gov. Interested parties can purchase a copy of ASTM F833-21 from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959 USA; phone; 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 carriages and strollers are children’s products, a CPSC-accepted third party conformity assessment body must test samples of the products. Products subject to part 1227 also must comply with all other applicable CPSC requirements, such as the lead content requirements in section 101 of the CPSIA,² the phthalates prohibitions in section 108 of the CPSIA³ and 16 CFR part 1307, the tracking label requirements in section 14(a)(5) of the CPSA,⁴ and the consumer registration form requirements in section 104(d) of the CPSIA.⁵

E. Notice of Requirements

In accordance with section 14(a)(3)(B)(iv) of the CPSIA, the Commission has previously published a notice of requirements (NOR) for accreditation of third party conformity assessment bodies for testing carriages and strollers (79 FR 13208 (March 10, 2014)). The NORs provided the criteria and process for our acceptance of accreditation of third party conformity assessment bodies for testing carriages and strollers to 16 CFR part 1227. The NORs are listed in the Commission’s rule, “Requirements Pertaining to Third Party Conformity Assessment Bodies.” 16 CFR part 1112.

² 15 U.S.C. 1278a.

³ 15 U.S.C. 2057c.

⁴ 15 U.S.C. 2063(a)(5).

⁵ 15 U.S.C. 2056a(d).

The revisions to ASTM F833-21 will not require any significant changes in the way that third party conformity assessment bodies test carriages and strollers. Therefore, the Commission considers existing CPSC-accepted testing laboratories that have demonstrated competence for testing in accordance with ASTM F833-19 will have the competence to test in accordance with the revised standard ASTM F833-21 as well. Accordingly, the existing NOR for this standard will remain in place, and CPSC-accepted third party conformity assessment bodies are expected to update the scope of the testing laboratories' accreditations to reflect the revised standard in the normal course of renewing their accreditations.

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.

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 becomes CPSC’s mandatory standard by operation of law. The Commission is allowing ASTM F833-21 to become CPSC’s new mandatory standard. The purpose of this direct final rule is to update the reference in 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 update provision of section 104 of the CPSIA, ASTM F833-21 takes effect as the new CPSC standard for carriages and strollers, 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) endorsed direct final rulemaking as an appropriate procedure to expedite rules that are noncontroversial and that are 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 notice, the rule will become effective on February 15, 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 change.” 60 FR 43108, 43111. As noted, this rule merely updates a reference in the CFR to reflect a change that occurs by statute.

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 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 carriages and strollers 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). While the revised mandatory standard updates the provisions for marking, labeling, and

instructional literature regarding consistency and clarity to be consistent with other ASTM voluntary standards, the revised mandatory standard does not alter these requirements substantively. The Commission took the steps required by the PRA for information collections when it adopted 16 CFR part 1227, including obtaining approval and a control number. Because the information collection is unchanged, the revision does not affect the information collection requirements or approval related to the standard.

I. 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.

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. 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 within 180 days of notification to the Commission, unless the Commission determines 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 carriages and strollers. Therefore, ASTM F833-21 automatically will take effect as the new mandatory standard for carriages and strollers on February 15, 2022, 180 days after the Commission received notice of the revision on August 19, 2021. As a direct final rule, unless the Commission receives a significant adverse comment within 30 days of this notice, the rule will become effective on February 15, 2022.

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 (OIRA) 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 1227

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

For the reasons stated above, the Commission amends Title 16 CFR chapter II as follows:

PART 1227 – SAFETY STANDARD FOR CARRIAGES AND STROLLERS

1. The authority citation for part 1227 continues to read as follows:

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

2. Revise § 1227.2 to read as follows:

§ 1227.2 Requirements for carriages and strollers.

Each carriage and stroller shall comply with all applicable provisions of ASTM F833-21, Standard Consumer Safety Performance Specification for Carriages and Strollers, approved June 15, 2021. 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; phone: (610) 832-9585; www.astm.org. 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) 504-7479, email: cpssc-os@cpssc.gov, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Dated: _____

Alberta E. Mills, Secretary
U.S. Consumer Product Safety Commission



Memorandum

TO: The Commission
Alberta E. Mills, Secretary

DATE: October 27, 2021

THROUGH: Pamela J. Stone, Acting General Counsel
Mary T. Boyle, Executive Director
DeWane Ray, Deputy Executive Director for Safety Operations

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

Kristen Talcott, Project Manager,
Division of Human Factors,
Directorate for Engineering Sciences

Brian Baker, Mechanical Engineer,
Laboratory Sciences Mechanical Engineering Division,
Directorate for Laboratory Sciences

Carlos Torres, Mechanical Engineer
Division of Mechanical and Combustion Engineering,
Directorate for Engineering Sciences

SUBJECT: Notice of Revision to the Carriage and Stroller Standard, 16 CFR Part 1227

Introduction

The Danny Keysar Child Product Safety Notification Act, *i.e.*, section 104 of the Consumer Product Safety Improvement Act of 2008 (CPSIA), instructs the voluntary standards organization, ASTM International (ASTM), to notify the U.S. Consumer Product Safety Commission (CPSC) of revisions to voluntary standards that are a basis for a consumer product safety standard promulgated by the Commission, as outlined below:

“(B) COMMISSION ACTION ON REVISED VOLUNTARY STANDARD - If an organization revises a standard that has been adopted, in whole or in part, as a consumer product safety standard under this subsection, it shall notify the Commission. The revised voluntary standard shall be considered to be a consumer product safety standard issued by the Commission under section 9 of the Consumer Product Safety Act (15 U.S.C. 2058), effective 180 days after the date on which the organization notifies the Commission (or such later date specified by the Commission in the Federal Register) unless, within 90 days after receiving that notice, the Commission notifies the organization that it has determined that the proposed revision does not improve the safety of the

consumer product covered by the standard and that the Commission is retaining the existing consumer product safety standard.”

On March 10, 2014, the Commission adopted ASTM F833 – 13b, *Standard Consumer Safety Specification for Carriages and Strollers*, with one modification, as a CPSC mandatory standard, codified under 16 CFR part 1227. In 2016, the CPSC mandatory standard was updated to adopt ASTM F833 – 15, without modification; in 2019, it was updated to adopt ASTM F833 – 19, without modification (current CPSC mandatory standard). On August 19, 2021, ASTM officially notified the CPSC that it had published a revised version of the standard for carriages and strollers, ASTM F833 – 21.

In this memorandum, CPSC staff assesses the differences between ASTM F833 – 19 and ASTM F833 – 21 and whether the changes affect how a third party assessment body (also known as a testing laboratory) would test carriages and strollers. Staff concludes that the Commission may determine that ASTM's revisions to the standard for carriages and strollers are either neutral or improve the safety of such products, and staff recommends that the Commission incorporate the revised standard under 16 CFR part 1227.

Discussion

Summary of Differences Between ASTM F833 – 19 and ASTM F833 – 21

Staff identified three substantive changes between ASTM F833 – 19 and ASTM F833 – 21: (1) allowance for a concrete floor test surface, (2) clarification of requirements that apply to a combination unit of a car seat on a stroller, and (3) addition of test methods to determine that the parking brake cannot be disengaged by a child. Members of the ASTM Committee F15 on Consumer Products voted on and approved these changes, which were balloted as item #1 on F15 (19-03), item #2 on F15 (20-13), and item #5 on F15 (20-02).

Staff also identified many non-substantive changes, which staff grouped into four categories: (1) renumbering figures to account for the two new parking brake figures, (2) addition of hyphens to compound adjectives, (3) addition of units to the first value in range, and (4) revision of punctuation and spacing. ASTM did not ballot these changes because they considered them to be editorial.

In Appendix A, staff provides the differences in wording between ASTM F833 – 19 and ASTM F833 – 21 for the substantive changes.

Staff Assessment of Substantive Changes

Allowance for a concrete floor test surface

ASTM F833 – 19 Section 4.1 specifies that testing be conducted “on a concrete floor that shall be covered with 1⁄8-in. (3-mm) thick vinyl floor covering, unless test instructs differently.” ASTM F833 – 21 replaces in Section 4.1, the word “shall” with “may,” allowing for testing on the originally specified surface, or on an uncovered concrete floor. This change applies to all

carriages and stroller tests, except parking brake testing (Section 7.6), which is conducted on a horizontal test surface covered with 60 grit sandpaper, and wheel detachment from axle testing (Section 7.13.1), which is conducted on a table.

This change aligns the specified test surface with other juvenile standards, including: F1169 – 19 *Standard Consumer Safety Specification for Full-Size Baby Cribs*, F1235 – 18 *Standard Consumer Safety Specification for Portable Hook-On Chairs*, F1004 – 21 *Standard Consumer Safety Specification for Expansion Gates and Expandable Enclosures*, F1821 – 19^{ε1} *Standard Consumer Safety Specification for Toddler Beds*, F2012 – 18^{ε1} *Standard Consumer Safety Performance Specification for Stationary Activity Centers*, F2050 – 19 *Standard Consumer Safety Specification for Hand-Held Infant Carriers*, F2167 – 19 *Standard Consumer Safety Specification for Infant Bouncer Seats*, and F404 – 20 *Standard Consumer Safety Specification for High Chairs*.

Staff assessed the effect of the new test surface requirement, as shown in Appendix B. Staff determined that ASTM's revised wording on testing surface is neutral regarding safety, because allowing for testing on the originally specified surface, or on an uncovered concrete floor, would not have an effect on test results.

Staff concludes that the allowance for an uncovered concrete floor test surface, in addition to the current concrete floor covered with a 1/8-inch-thick vinyl floor test surface, does not affect the safety of carriages and strollers, because test results should be the same on either surface.

Clarification of requirements that apply to combination unit of a car seat on a stroller

The impact test in Section 6.7.1, with its corresponding test method in Section 7.11, and the head entrapment requirement in Section 6.10 with its test method in 7.18, already existed in ASTM F833 – 19, but these sections were omitted in the summary list of requirements that apply to a combination unit of a car seat on a stroller in Section 6.6.1. ASTM F833 – 21 now adds references to Section 6.7.1 and Section 6.10, as well as their corresponding test methods, to the list of requirements in Section 6.6.1. Section 6.7.1 applies to a “combination unit of a car seat on a carriage, stroller, or convertible carriage/stroller,” and Section 6.10 applies to a “combination unit of a rear-facing car seat on a stroller or convertible carriage/stroller.”

Staff concludes that the additions to the list of requirements that apply to a combination unit of a car seat on a stroller in Section 6.6.1 are neutral regarding safety and do not affect the safety of carriages and strollers because there are no changes to the requirements, test methods, or category of product to which they apply. This addition simply restates the requirements with which a combination unit of a car seat on a stroller must conform.

Addition of test methods to determine that the parking brake cannot be disengaged by a child

ASTM F833 – 19 Section 6.1.3 specifies that “[e]ach parking brake shall be constructed so that it cannot be disengaged by the child within the unit when the child is secured in the unit in accordance with the instructional literature.” ASTM F833 – 21 replaces this text and adds three alternative ways in which the parking brake release mechanism can meet the requirement, when evaluated for each seating position of the product (see Appendix A for exact language) as follows:

1. Added section 6.3.1.1: Each parking brake mechanism is outside of the “access zone,” which is defined as: the volume above the seat within a 21.7-inch radius from the mid-point of the junction line on the uncompressed upper surface of the seat unit and extending 21.5 inches to each side (as shown in Figure 7 of ASTM F833 – 21, see Figure 1 below) and a 2-inch band extending inward from each side of the seat/leg rest edge and downward for 5.9 inches from the uncompressed upper surface of the seat (as shown in Figure 8 of ASTM F833 – 21, see Figure 1 below). The space located behind the backrest is excluded from the parking brake access zone for single-occupant strollers, but it is included for multi-occupant product configurations if it enters another parking brake access zone. Staff’s assessment shows that this test improves the safety of the standard by defining an access zone, and accounting for products with multiple seats that may provide easier access to the parking brake mechanism.
2. Added section 6.3.1.2: The parking brake release mechanism consists of one single-action release mechanism that shall not be released when a force of 10 lbf (45 N) or a torque of 3 lbf-in. (0.34 Nm) is applied directly to the release mechanism in the direction tending to release it. Staff’s assessment shows that this test improves safety by adding a force and torque requirement where none existed previously.
3. Added section 6.3.1.3: The parking brake release mechanism is a “double-action release mechanism,” which is defined as, “a release mechanism that requires either two consecutive actions, the first of which must be maintained while the second is carried out, or two separate and independent single-action locking mechanisms that must be activated simultaneously to fully release.” Although the reference to a double-action release mechanism in Section 6.3.1.3 has been added in ASTM F833 – 21, the definition for a “double-action release mechanism” has existed since the ASTM F833 – 13a version of the standard and in all subsequent versions of the standard through ASTM F833 – 21. Staff’s assessment shows that this alternative for meeting the requirement improves safety by adding a specific evaluation of the parking brake system where none existed previously.

These changes address concerns that the language on the parking brake mechanism in ASTM F833 – 19, “cannot be disengaged by the child within the unit” is non-specific and lacks a test protocol or evaluation method. Although staff is not aware of any incidents involving a child disengaging the parking brake, the potential for a child to disengage the parking brake is a foreseeable hazard. Therefore, taken together, these changes improve the safety of strollers and carriages because ASTM F833 – 19 provides no test protocol or evaluation method. The assessment of whether a child can disengage the parking brake currently is left up to the discretion of the laboratory’s test personnel, which could result in a lack of consistency and repeatability of testing among testing laboratories. ASTM F833 – 21 adds clarity with a test method that includes a defined access zone, a specific force and torque, and an evaluation of the mechanism, which is based on similar testing used in other standards.

Because ASTM F833 – 19 did not provide any method of testing for the foreseeable hazard of a child disengaging the parking brake, staff’s assessment shows that the new test method likely improves the safety of carriages and strollers.

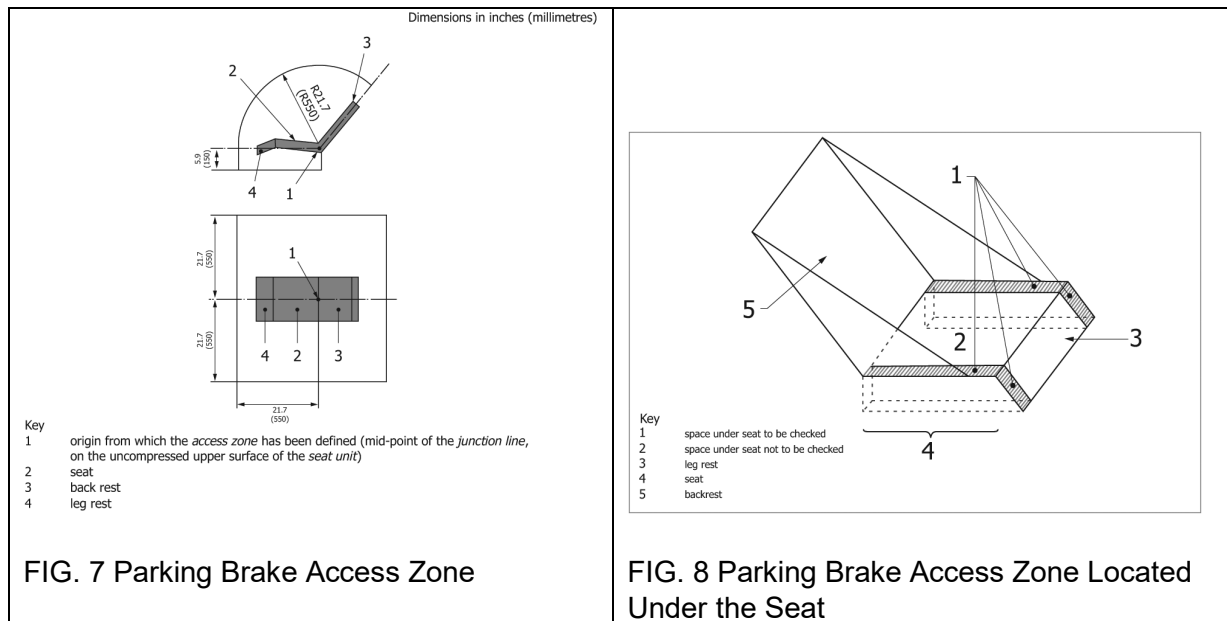


Figure 1: New parking brake figures.

Staff Assessment of Non-Substantive Changes

Renumbering of figures to account for the two new parking brake figures

ASTM F833 – 21 adds two parking brake figures (FIG. 7 and FIG. 8). To facilitate this addition, ASTM renumbered the existing FIG. 7 and FIG. 8, as well as all the remaining figures (FIG. 9 through FIG. 36), sequentially. The changes appear in both the figure captions and the in-text references.

Staff concludes that the figure renumbering is a neutral editorial revision that does not affect the safety of carriages and strollers.

Addition of hyphens to compound adjectives

ASTM F833 – 21 changes “single action” to “single-action,” “double action” to “double-action,” and “quick release” to “quick-release” in the sections referencing release/locking mechanisms. Staff assesses that the addition of hyphens is a grammatical change that is consistent with generally accepted grammar rules.

Staff concludes that the addition of hyphens is a neutral editorial revision that does not affect the safety of carriages and strollers.

Addition of units to the first value in a range

ASTM F833 – 21 adds units to the first value in a range, for example, changing “150 by 150-mm” to “150-mm by 150-mm.” Staff assesses that the addition of units improves clarity and does not affect the measurements.

Staff concludes that the addition of units is a neutral editorial revision that does not affect the safety of carriages and strollers.

Revisions to punctuation and spacing

ASTM F833 – 21 adds a comma to the list of examples of children’s products that are not considered carriages and strollers to the scope in Section 1.1. Staff assesses that the comma does not affect which products are in or out of the scope of the standard.

ASTM F833 – 21 also changes the spacing between numbers and units to prevent measurement expressions from breaking across lines. Staff assesses that these changes to spacing help with readability and do not affect the content of the standard.

Staff concludes that the revisions to punctuation and spacing are neutral editorial revisions that do not affect the safety of carriages and strollers.

Staff Assessment

For the reasons provided above, staff concludes that the revisions in ASTM F833 – 21 are neutral or improve the safety for carriages and strollers. Accordingly, staff recommends that the Commission allow ASTM F833 – 21 to become the CPSC mandatory standard for carriages and strollers and approve publication of a direct final rule in the *Federal Register* to revise 16 CFR part 1227 to reference ASTM F833 – 21.

Effect of the Changes on Third Party Testing

Staff assessed that one of the three substantive changes discussed above, the addition of test methods to determine that the parking brake cannot be disengaged by a child, will affect how a testing laboratory conducts the testing of carriages and strollers. A second substantive change, allowing a concrete floor test surface, may affect how a testing laboratory conducts the testing of carriages and strollers. The remaining substantive change, the clarification of requirements that apply to a combination unit of a car seat on a stroller, as well as the non-substantive changes, should not affect how a testing laboratory conducts the testing of carriages and strollers.

The addition of test methods to determine that the parking brake cannot be disengaged by a child will replace any testing that the testing laboratory was previously doing to verify that “[e]ach parking brake shall be constructed so that it cannot be disengaged by the child within the unit when the child is secured in the unit in accordance with the instructional literature.” This testing likely varied by testing laboratory.

Depending on the design of the stroller, the new test will require: (1) measuring distances between 2 inches and 21.7 inches from product landmarks to determine that the parking brake mechanism is outside the access zone; (2) applying a 10 lbf. force or a 3 lbf-in. torque to a

parking brake release mechanism; and/or (3) inspecting to verify that the parking brake release mechanism is a double-action release mechanism.

The distance measurement can be done with a standard tape measure. The force measurement involves a force gauge capable of measuring 10 lbf. and a torque meter capable of measuring 3 lbf-in. This equipment is standard, and it is already required for other testing in ASTM F833 – 19. The inspection can be done without additional instrumentation.

Allowing a concrete floor test surface expands the test surface options, which gives testing laboratories additional flexibility. Testing laboratories can continue to test on the originally specified surface if they choose.

The notice of requirements (NOR) provides the criteria and process for the Commission's acceptance of accreditation of third party conformity assessment bodies for strollers and carriages to 16 CFR part 1227 (which incorporates ASTM F833 – 19). The NORs are listed in the Commission's rule, "Requirements Pertaining to Third Party Conformity Assessment Bodies." 16 CFR part 1112. Testing laboratories that were previously CPSC-accepted for the stroller standard are assessed as being competent to conduct testing to the revised standard. The test equipment is common to mechanical testing laboratories, and the new methods are straightforward and are used in other durable infant product standards. Therefore, staff recommends that the Commission consider the existing accreditations that have been accepted for testing to this standard to cover testing to the revised standard as well. In this case, the existing NOR for this standard will remain in place, and CPSC-accepted third party conformity assessment bodies 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 direct email and will provide links to the *Federal Register* notice to explain the changes to the standard and the effective date.

Effective Date

According to section 104(b)(4)(B) of the CPSIA, unless the Commission notifies an organization that it has determined that a proposed voluntary standard revision does not improve the safety of a consumer product covered by the standard and that the Commission is retaining the existing standard, the revised voluntary standard will become effective as the CPSC standard 180 days after the date on which an organization notifies the Commission of the revision, or a later date that the Commission specifies in the *Federal Register*. In the case of ASTM F833 – 21, the revised standard will become effective as the CPSC standard on February 15, 2022, unless the Commission specifies a later date. The Juvenile Products Manufacturers Association (JPMA) 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 F833 – 21 was approved on June 15, 2021, and it published in August 2021. Accordingly, by February 15, 2022, manufacturers should already be producing products that meet this standard. Staff concludes that there should be no issues with an effective date of February 15, 2022, for the CPSC standard.

Recommendations

Under Section 104(b)(4)(B), unless the Commission determines that ASTM's revision "does not improve the safety of the consumer product covered by the standard," ASTM F833 – 21 will become the new mandatory standard for carriages and strollers.

Based on staff's review, staff recommends that the Commission allow ASTM F833 – 21 to become the CPSC mandatory standard for carriages and strollers and approve publication of a direct final rule in the *Federal Register* to revise 16 CFR part 1227 to reference ASTM F833 – 21. Specifically, staff recommends that the Commission not make a determination that the revision does not improve the safety of carriages and strollers. If the Commission allows this revision, the revised standard will become effective on February 15, 2022.

Appendix A: Differences in Wording Between ASTM F833 – 19 and ASTM F833 – 21 for the Substantive Changes

NOTE: underlined text indicates new language, ~~strikeout~~ text indicates removed language

Section in Standard	Comparison of ASTM F833 – 19 and ASTM F833 – 21
4.1 (Calibration and Standardization)	4.1 All testing shall be conducted on a concrete floor that <u>shall</u> may be covered with 1/8-in. (3-mm) thick vinyl floor covering, unless test instructs differently.
6.6.1 (Car Seat/Stroller Products)	6.6.1 <i>Combination Unit of a Car Seat on a Stroller</i> —The combined unit shall conform to the requirements of <u>2.2, 6.1</u> in accordance with <u>7.6, 6.2.4</u> in accordance with <u>7.3.2, 6.3</u> in accordance with <u>7.4.1, 6.7.1 in accordance with 7.11, 6.10 in accordance with 7.18, 7.10, and 9.1</u> when the car seat is installed in all manufacturer's recommended use positions. When testing the combination unit according to <u>7.10</u> (16 CFR 1500.52 (b) (4) (iii)), the unit shall neither have any broken parts nor allow the car seat to completely separate from the stroller.
6.1 (Parking Brake Requirements)	6.1.2 After completing the test described in 7.6, each parking brake shall be able to be engaged and <u>functional</u> shall meet the requirements of this standard in all parking brake engagement positions.
6.1 (Parking Brake Requirements)	6.1.3 Each <u>The</u> parking brake shall be constructed so release mechanism(s) shall comply with either 6.1.3.1 that, 6.1.3.2 it cannot be, or 6.1.3.3 disengaged by the child within the unit when the child is secured in the unit in accordance with the instructional literature when evaluated for each seating position of the product. <u>6.1.3.1 Each parking brake release mechanism shall be located outside the parking brake access zone for each seating position. Refer to Fig. 7. The space located behind the backrest is excluded from the parking brake access zone. Where a stroller is suitable for two or more children, the space located behind the backrest shall be considered if it enters another parking brake access zone. The access zone located under the seat is defined as a 2-in. (51-mm) band extending inward from each side of the seat/leg rest edge and downward for 5.9 in. (150 mm) from the uncompressed upper surface of the seat. (See Fig. 8.)</u> <u>6.1.3.2 The parking brake release mechanism consists of one single-action release mechanism that shall not be released when a force of 10 lbf (45 N) or a torque of 3 lbf-in. (0.34 Nm) is applied directly to the release mechanism in the direction tending to release it.</u> <u>6.1.3.3 The parking brake release mechanism is a double-action release mechanism.</u>

6.1 (Parking Brake Requirements)

Dimensions in inches (millimetres)

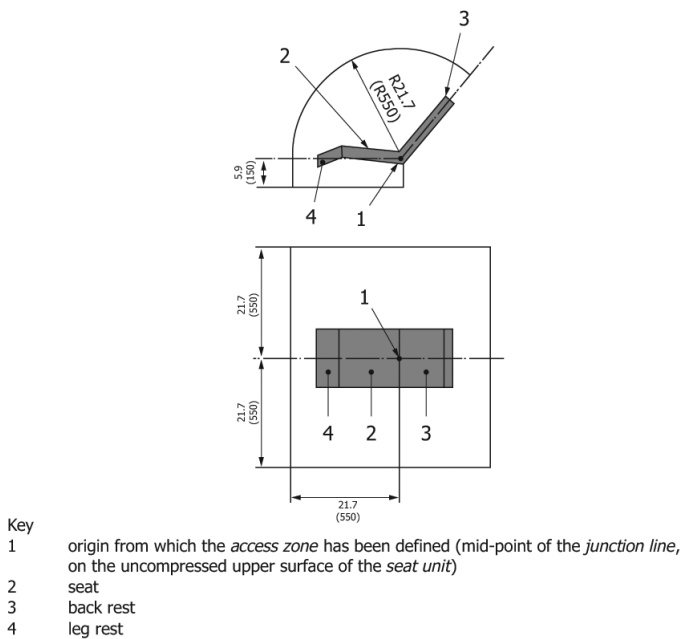


FIG. 7 Parking Brake Access Zone

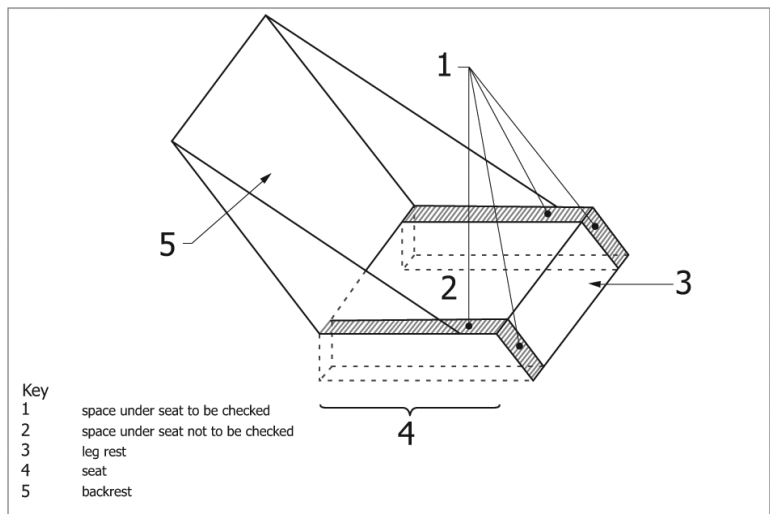


FIG. 8 Parking Brake Access Zone Located Under the Seat

Appendix B: Assessment of the Effect of Test Surface on Carriage and Stroller Tests

A concrete floor with vinyl covering has a different coefficient of friction than an uncovered concrete floor. Because this difference theoretically could affect test results, staff evaluated all tests in ASTM F833 – 21 that would allow for the use of an uncovered concrete floor to determine whether the floor surface would be expected to change the test result. Based on this evaluation of all applicable test methods, as detailed below, staff determined that the allowance for an uncovered concrete floor test surface would not impact the test methods specified in ASTM F833 – 21.

The testing in Section 7.2, *Latching Mechanisms for Prevention of Unintentional Folding*, specifies that the unit be secured so that the normal folding motion is not impeded. Normally, the unit is secured to the floor by means of external hardware (e.g., clamps, straps, hooks). As such, the type of floor surface (e.g., vinyl or concrete) is irrelevant, because the forces applied during testing are transferred to this hardware, regardless of floor type.

The testing in Section 7.3, *Static Load Test Method*, verifies the structural integrity of the unit when weight is placed on the seat. The unit is placed and evaluated from stationary position on the floor while supporting the specified test weight. Because only the two forces (i.e., weight of unit with test weight and the normal force exerted upward by the floor) are interacting at the point of contact between the wheels and the floor, and the unit is not in motion, the type of floor surface (e.g., vinyl or concrete) would not have an effect on the test results.

In Section 7.4.1, *Stability with Occupant(s) in the Product*, the test specifies that the unit is to be placed on a 12-degree inclined plane, with the wheels against a “stop” to prevent the unit from moving down the plane. Because the “stop” is supporting the unit weight component along the plane (i.e., inclined floor), the type of floor surface (e.g., vinyl or concrete) would not have an effect on the test results.

Section 7.4.2, *Front Stability (Child Climbing in) for Stroller or Convertible Carriage/Stroller in Stroller Use Only*, specifies that the unit shall be positioned with all wheels on a flat horizontal plane (e.g., floor). A vertically downward force is then applied to any member forward of the front edge of the seat to verify if the unit tips over. Because the force is oriented downward (i.e., perpendicular to the floor), there is no motion (e.g., sliding) of the unit such that the floor surface type (e.g., vinyl or concrete) would have an effect on the results. Only a rotational motion around the pivot point (or pivot line), caused by the arm moment, might induce the unit (if ever) to tip over. This rotational motion is independent of the type of floor surface.

Section 7.5.1, *Restraining System Integrity Test Method*, specifies that the unit shall be secured so it cannot move vertically or horizontally. Normally, the unit is secured to the floor by external hardware (e.g., clamps, straps, hooks). This works as anchoring points for the test. A force is then applied to each attachment point of the restraint system to verify its integrity. The floor surface type is irrelevant because the test is conducted on a localized part of the unit and the residual forces are transferred to this hardware.

Similar to Section 7.5.1 above, Section 7.5.2, *Restraining System Occupant Retention Test Method*, specifies that the unit is to be secured so it cannot move vertically or horizontally using external hardware. A pull force is then exerted on the leg of the test dummy to verify if the restraining system retains the dummy in the seat. Following this, the restraint system straps are measured to verify that the straps comply with specific length requirements. As such, the floor surface material is irrelevant to the test results.

The tests in sections 7.5.3 and 7.5.4, *Restraining System Waist Restraint/Crotch Strap Test Method*, do not specify a floor surface. They only specify that the unit be erected (*i.e.*, open) in the manufacturer's use position, and the test cylinder placed on the seat and adjusted in a way to measure the straps' locations on the seat and that there are no gaps greater than 1 inch between the waist restraint and the test cylinder. Because these tests are conducted on localized parts of the unit, the type of floor surface would not have an effect on the results.

The tests in Section 7.5.5, *Buckle Release Test Method*, are conducted directly on the restraint system buckle, regardless of whether the unit is erected or not. Normally, the restraint system (with the buckle) is removed from the unit, when possible, and the test performed on a test table. Because the tests are done on a localized unit's component, the type of floor surface is irrelevant to the test results.

The test in Section 7.7, *Occupant Retention Test Method*, specifies that the unit be secured so it cannot move horizontally. Normally, the unit is secured to the floor by external hardware (*e.g.*, clamps, straps, hooks). A force is then applied behind a probe from within the unit to verify completely bounded external openings. As such, the type of floor surface (*e.g.*, vinyl or concrete) is irrelevant because the forces applied during testing are localized to the unit's components and transferred to the anchoring hardware.

Section 7.8, *Permanency of Labels and Warnings*, does not require the unit to be placed on any specific surface. The unit can be erected or folded, and placed on any surface (*e.g.*, table, floor) because the tests are conducted directly on the labels adhered to the unit. Therefore, the floor surface material would not have an effect on the test results.

The test in section 7.9, *Removal of Protective Components*, specifies that the unit shall be secured so it cannot move. Normally, the unit is secured to the floor by external hardware (*e.g.*, clamps, straps, hooks) to function as anchoring points. A force and torque are then applied to each protective component to verify whether they will detach. Because the tests are conducted on localized components, the type of floor surface would not have an effect on the test results.

The test associated with a Combination Unit of a Car Seat on a Stroller (Section 6.6.1) in Section 7.10 specifies that the unit shall be purposely tipped over in all three directions (*i.e.*, front, rear, and one side) to verify its integrity and identify resulting hazardous conditions. Given that a 1/8-inch-thick vinyl covering would have a negligible cushion effect on the impact energy compared to a concrete floor with no vinyl covering, the type of floor surface would not have an effect on the test results.

The test in section 7.11, *Impact Test Method*, is to verify the structural integrity of the unit, verify if the fold locking/latching mechanism disengages or breaks, and if the hand held carrier (*e.g.*, car seat) detaches from the unit. The stroller is placed on a 20-degree inclined plane (*i.e.*, inclined floor) and allowed to run freely down the slope against a rigid stop from a

distance of 40 inches. Because the intent of the incline is to allow the unit to gain speed to develop enough impact energy, the type of floor surface (e.g., vinyl or concrete) would not have an effect on test results because the wheels will rotate in a similar manner regardless of floor type.

Section 7.12, *Passive Containment/Foot Opening Test Method*, verifies if trays or grab bars in front of the occupant create a completely or partially bounded opening. The front wheels are secured to the floor so the unit cannot move forward. Normally, the unit is secured by external hardware (e.g., clamps, straps, hooks). A force is then applied behind a head probe (or torso probe, where applicable) from within the unit occupant's area to evaluate the openings. Because the unit is secured to the floor by the anchoring hardware to impede its movement, the type of floor surface would not have an effect on the results. The forces applied to the occupant's area are transferred to this hardware.

Section 7.13.2, *Swivel Assembly Detachment from the Frame Testing*, and Section 7.14, *Wheel Detachment from a Removable Wheel Fork Assembly Testing*, do not require the unit to be placed on any specific surface. Normally, the unit is secured tilted backwards or on an elevated surface (e.g., table) using external hardware to prevent its movement. A force is then applied to the swivel wheel assembly and removable-wheel fork assembly. Because the test is conducted on a localized component, and the type of floor does not have a role in the testing, the floor surface material (e.g., vinyl or concrete) would not have an effect on the test results.

Section 7.15, *Frame Folding, Scissoring, Shearing, and Pinching*, evaluates potential scissoring, shearing, and pinching hazards while folding and locking the unit at specific positions. The testing does not require the unit to be placed on a specific surface. Therefore, the floor surface (e.g., vinyl or concrete) would not have an effect on test results.

The test in Section 7.16, *Cord and Strap*, evaluates cords and straps that originate within or extend into the occupant space exceed a required length. The testing does not require the unit to be placed on a specific surface. Therefore, the floor surface (e.g., vinyl or concrete) would not have an effect on test results.

Section 7.17, *Scissoring, Shearing, and Pinching Test Method*, evaluates potential scissoring, shearing, and pinching hazards while erecting (i.e., opening) and locking the unit from a specified position. The testing does not require the unit to be placed on a specific surface. Therefore, the floor surface (e.g., vinyl or concrete) would not have an effect on test results.

Section 7.18, *Head Entrapment with Car Seat on a Stroller or Convertible Carriage/Stroller Test Method*, verifies completely bounded external openings. The unit's wheels are secured to the floor so the unit cannot move or pivot around the specified wheels for the test condition. Normally, the unit is secured by external hardware (e.g., clamps, straps, hooks). A force is then applied behind a head probe (or torso probe, where applicable) from within the unit occupant's area (i.e., car seat) to evaluate the openings. Because the unit is secured to the floor by the anchoring hardware to impede its movement, the floor surface would not have an effect on the results. The forces applied to the occupant's area are transferred to this hardware.

The test in section 7.19, *Tray/grab Bar Protective Covering Removal Test Method*, does not require a specific floor surface. The test consists of applying a force to the tray/grab bar

protective covering to verify for detachment. Because this is a localized testing to a unit's component, the floor material (e.g., vinyl or concrete) would not have an effect on the results.