

§ 1633.3

16 CFR Ch. II (1–1–10 Edition)

(v) *Core* means the main support system that may be present in a mattress, such as springs, foam, water bladder, air bladder, or resilient filling.

§ 1633.3 General requirements.

(a) *Summary of test method.* The test method set forth in §1633.7 measures the flammability (fire test response characteristics) of a mattress specimen by exposing the specimen to a specified flaming ignition source and allowing it to burn freely under well-ventilated, controlled environmental conditions. The flaming ignition source shall be a pair of propane burners. These burners impose differing fluxes for differing times on the top and sides of the specimen. During and after this exposure, measurements shall be made of the time-dependent heat release rate from the specimen, quantifying the energy generated by the fire. The rate of heat release must be measured by means of oxygen consumption calorimetry.

(b) *Test criteria.* (1) When testing the mattress set in accordance with the test procedure set forth in §1633.7, the specimen shall comply with both of the following criteria:

(i) The peak rate of heat release shall not exceed 200 kilowatts (“kW”) at any time within the 30 minute test; and

(ii) The total heat release shall not exceed 15 megajoules (“MJ”) for the first 10 minutes of the test.

(2) In the interest of safety, the test operator should discontinue the test and record a failure if a fire develops to such a size as to require suppression for the safety of the facility.

(c) *Testing of mattress sets.* Mattresses labeled for sale with a foundation shall be tested with such foundation. Mattresses labeled for sale without a foundation shall be tested alone.

(d) *Compliance with this standard.* Each mattress set manufactured, imported, or renovated on or after the effective date of the standard shall meet the test criteria specified in paragraph (b) of this section and otherwise comply with all applicable requirements of this part 1633.

§ 1633.4 Prototype testing requirements.

(a) Except as otherwise provided in paragraph (b) of this section, each

manufacturer shall cause three specimens of each prototype to be tested according to §1633.7 and obtain passing test results according to §1633.3(b) before selling or introducing into commerce any mattress set based on that prototype, unless the manufacturer complies with the prototype pooling and confirmation testing requirements in §1633.5.

(b) Notwithstanding the requirements of paragraph (a) of this section, a manufacturer may sell or introduce into commerce a mattress set that has not been tested according to §1633.7 if that mattress set differs from a qualified or confirmed prototype only with respect to:

(1) Mattress/foundation length and width, not depth (*e.g.*, twin, queen, king);

(2) Ticking, unless the ticking of the qualified prototype has characteristics (such as chemical treatment or special fiber composition) designed to improve performance on the test prescribed in this part; and/or

(3) Any component, material, design or method of assembly, so long as the manufacturer can demonstrate on an objectively reasonable basis that such differences will not cause the mattress set to exceed the test criteria specified in §1633.3(b).

(c) All tests must be conducted on specimens that are no smaller than a twin size, unless the largest size mattress set produced is smaller than a twin size, in which case the largest size must be tested.

(d)(1) If each of the three specimens meets both the criteria specified in §1633.3(b), the prototype shall be qualified. If any one (1) specimen fails to meet the test criteria of §1633.3(b), the prototype is not qualified.

(2) Any manufacturer may produce a mattress set for sale in reliance on prototype tests performed before the effective date of this Standard, provided:

(i) The manufacturer has documentation showing that such tests were conducted in accordance with all requirements of this section and §1633.7 and yielded passing results according to the test criteria of §1633.3(b);

(ii) Any tests conducted more than 30 days after publication of this standard in the FEDERAL REGISTER must comply

with the recordkeeping requirements in §1633.11;

(iii) Such mattress sets may be used for prototype pooling only if the manufacturer complies with applicable recordkeeping requirements in §1633.11; and

(iv) Such mattress sets may serve as the basis for a subordinate prototype only if the manufacturer has all records required by §1633.11.

§1633.5 Prototype pooling and confirmation testing requirements.

(a) *Prototype pooling.* One or more manufacturers may rely on a qualified prototype produced by another manufacturer or prototype developer provided that:

(1) The prototype meets the requirements of §1633.4;

(2) The mattress sets being produced are the same as the qualified prototype with respect to materials, components, design and methods of assembly; and

(3) The manufacturer producing mattress sets in reliance on a qualified prototype has performed a confirmation test on at least one (1) Specimen of the mattress set it produces in accordance with §1633.7. The tested specimen must meet the criteria under §1633.3(b) before any mattress sets based on the qualified prototype may be sold or introduced into commerce.

(b) *Confirmation test failure.* (1) If the confirmation test specimen fails to meet the criteria of §1633.3(b), the manufacturer thereof shall not sell any mattress set based on the same qualified prototype until that manufacturer takes corrective measures, tests a new specimen, and the new specimen meets the criteria of §1633.3(b).

(2) If a confirmation test specimen fails to meet the criteria of §1633.3(b), the manufacturer thereof must notify the manufacturer of the prototype of the test failure.

§1633.6 Quality assurance requirements.

(a) *Quality assurance.* Each manufacturer shall implement a quality assurance program to ensure that mattress sets manufactured for sale are the same as the qualified and/or confirmed prototype on which they are based with respect to materials, components, de-

sign and methods of assembly, except as permitted by §1633.4(b). At a minimum these procedures shall include:

(1) Controls, including incoming inspection procedures, of all mattress set materials, components and methods of assembly to ensure that they are the same as those used in the prototype on which they are based;

(2) Designation of a production lot that is represented by the prototype; and

(3) Inspection of mattress sets produced for sale sufficient to demonstrate that they are the same as the prototype on which they are based with respect to materials, components, design and methods of assembly.

(b) *Production testing.* Manufacturers are encouraged to conduct, as part of the quality assurance program, random testing of mattress sets being produced for sale according to the requirements of §§1633.3 and 1633.7.

(c) *Failure of mattress sets produced for sale to meet flammability standard—*(1) *Sale of mattress sets.* If any test performed for quality assurance yields results which indicate that any mattress set of a production lot does not meet the criteria of §1633.3(b), or if a manufacturer obtains test results or other evidence that a component or material or construction/assembly process used could negatively affect the test performance of the mattress set as set forth in §1633.3(b), the manufacturer shall cease production and distribution in commerce of such mattress sets until corrective action is taken.

(2) *Corrective action.* A manufacturer must take corrective action when any mattress set manufactured or imported for sale fails to meet the flammability test criteria set forth in §1633.3(b).

§1633.7 Mattress test procedure.

(a) *Apparatus and test materials—*(1) *Calorimetry.* The rate of heat release must be measured by means of oxygen consumption calorimetry. The calibration should follow generally accepted practices for calibration. The calorimetry system shall be calibrated at a minimum of two (2) calibration points—at 75 kW and 200 kW.

(2) *Test area.* The test area must have either Test Configuration A or B. The