

### § 1213.3

sleeping occupant from falling or rolling out.

#### § 1213.3 Requirements.

(a) *Guardrails.* (1) Any bunk bed shall provide at least two guardrails, at least one on each side of the bed, for each bed having the underside of its foundation more than 30 inches (760 mm) from the floor.

(2) One guardrail shall be continuous between each of the bed's end structures. "Continuous" means that any gap between the guardrail and end structure shall not exceed 0.22 inches (5.6 mm) (so as to not cause a finger entrapment hazard for a child).

(3) The other guardrail may terminate before reaching the bed's end structures, providing there is no more than 15 inches (380 mm) between either end of the guardrail and the nearest bed end structures.

(4) For bunk beds designed to have a ladder attached to one side of the bed, the continuous guardrail shall be on the other side of the bed.

(5) Guardrails shall be attached so that they cannot be removed without either intentionally releasing a fastening device or applying forces sequentially in different directions.

(6) The upper edge of the guardrails shall be no less than 5 inches (130 mm) above the top surface of the mattress when a mattress of the maximum thickness specified by the bed manufacturer's instructions is on the bed. This requirement does not prohibit a wall-side guardrail that terminates in a quarter-circle bend and attaches to the side rail of the upper bunk foundation.

(7) With no mattress on the bed, there shall be no openings in the structure between the lower edge of the uppermost member of the guardrail and the underside of the upper bunk's foundation that would permit passage of the wedge block shown in Figure 1 of this part when tested in accordance with the procedure at § 1213.4(a).

(b) *Bed end structures.* (1) The upper edge of the upper bunk end structures shall be at least 5 inches (130 mm) above the top surface of the mattress for at least 50 percent of the distance between the two posts at the head and foot of the upper bunk when a mattress

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and foundation of the maximum thickness specified by the manufacturer's instructions is on the bed.

(2) With no mattress on the bed, there shall be no openings in the end structures above the foundation of the upper bunk that will permit the free passage of the wedge block shown in Figure 1 when tested in accordance with the procedure at § 1213.4(b).

(3) When tested in accordance with § 1213.4(c), there shall be no openings in the end structures between the underside of the foundation of the upper bunk and upper side of the foundation of the lower bunk that will permit the free passage of the wedge block shown in Figure 1, unless the openings are also large enough to permit the free passage of a 9-inch (230-mm) diameter rigid sphere.

(4) All portions of the boundary of any opening required by §§ 1213.4(c)(1) and (2) to be probed by the wedge block of Figure 1, and that permits free passage of a 9-inch diameter sphere, must conform to the neck entrapment requirements of § 1213.4(c)(3).

#### § 1213.4 Test methods.

(a) *Guardrails* (see § 1213.3(a)(6)). With no mattress on the bed, place the wedge block shown in Figure 1, tapered side first, into each opening in the bed structure below the lower edge of the uppermost member of the guardrail and above the underside of the upper bunk's foundation. Orient the block so that it is most likely to pass through the opening (e.g., the major axis of the block parallel to the major axis of the opening) ("most adverse orientation"). Then gradually apply a 33-lbf (147-N) force in a direction perpendicular to the plane of the large end of the block. Sustain the force for 1 minute.

(b) *Upper bunk end structure* (see § 1213.3(b)(2)). Without a mattress or foundation on the upper bunk, place the wedge block shown in Figure 1 into each opening, tapered side first, and in the most adverse orientation. Determine if the wedge block can pass freely through the opening.

(c) *Lower bunk end structure* (see § 1213.3(b)(3)). (1) Without a mattress or foundation on the lower bunk, place the wedge block shown in Figure 1, tapered side first, into each opening in

the lower bunk end structure in the most adverse orientation. Determine whether the wedge block can pass freely through the opening. If the wedge block passes freely through the opening, determine whether a 9-inch (230-mm) diameter rigid sphere can pass freely through the opening.

(2) With the manufacturer's recommended maximum thickness mattress and foundation in place, repeat the test in paragraph (c)(1) of this section.

(3) All portions of the boundary of any opening that is required to be probed by the wedge block of Figure 1 by paragraphs (c)(1) and (c)(2) of this section, and that permits free passage of a 9-inch diameter sphere, must satisfy the requirements of paragraphs (c)(3)(i) and (c)(3)(ii) of this section addressing neck entrapment.

(i) Insert the "A" section of the test template shown in Figure 2 of this part into the portion of the boundary of the opening to be tested, with the plane of the template in the plane of the opening and with the centerline of the top of the template (as shown in Figure 2) aligned parallel to the centerline of the opening, until motion is stopped by contact between the test template and the boundaries of the opening (see Figure 3 of this part). By visual inspection, determine if there is simultaneous contact between the boundary of the opening and both sides of the "A" section of the template. If simultaneous contact occurs, mark the con-

tact points on the boundary of the opening and conduct the additional test described in paragraph (c)(3)(ii) of this section.

(ii) To check the potential for neck entrapment, place the neck portion of the "B" section of the template into the opening, with its plane perpendicular to both the plane of the opening and the centerline of the opening (see Figure 4 of this part). If the neck portion of the "B" section of the template completely enters the opening (passes 0.75 inch or more beyond the points previously contacted by the "A" section of the template), the opening is considered to present a neck entrapment hazard and fails the test, unless its lower boundary slopes downward at 45° or more for the whole distance from the narrowest part of the opening the neck can reach to the part of the opening that will freely pass a 9-inch diameter sphere.

#### § 1213.5 Marking and labeling.

(a) There shall be a permanent label or marking on each bed stating the name and address (city, state, and zip code) of the manufacturer, distributor, or retailer; the model number; and the month and year of manufacture.

(b) The following warning label shall be permanently attached to the inside of an upper bunk bed end structure in a location that cannot be covered by the bedding but that may be covered by the placement of a pillow.