

**OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD**

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**FINAL STATEMENT OF REASONS****CALIFORNIA CODE OF REGULATIONS**

TITLE 8: Chapter 4, Subchapter 4,
Article 16, Section 1620; Article 17, Section 1626, and Article 18, Section 1629
of the Construction Safety Orders

Railings and Stairways**MODIFICATIONS AND RESPONSE TO COMMENTS RESULTING FROM
THE 45-DAY PUBLIC COMMENT PERIOD**

There are no modifications to the information contained in the Initial Statement of Reasons except for the following substantive or sufficiently related modifications that are the result of public comments and Board staff evaluation.

Subsection 1620(a).

The original proposal would have inserted the phrase: "...consisting of a top rail and mid-rail" at the beginning of the sentence. This phrase is now proposed for retraction. The purpose and necessity for this modification, coupled with other modifications described below, is to clarify that other types of railing construction between the top rail and the floor, platform, runway or ramp are permissible so long as they provide protection equivalent to a mid-rail.

Subsection 1620(a)(2).

This subsection, as originally proposed, prescribed that the mid-rail should be halfway between the top rail and the floor, platform, runway or ramp when there is no wall or parapet wall at least 21 inches (53 cm) high. An amendment is proposed to clarify that other types of coverage between the top rail and the floor, platform, runway or ramp are permissible; i.e. screens, mesh, intermediate vertical members (such as balusters), solid panels, or equivalent members.

Subsections (A)1-(A)3 specify coverage requirements for each mid-rail alternative.

The purpose and necessity for these amendments is to clarify that other types of railing construction between the top rail and the floor, platform, runway or ramp are permissible (subject to requirements applicable to all types of railing construction) and to assure that openings in railings are limited in size to protect workers from falling through them.

Subsection 1620(d).

This subsection, as originally proposed, prescribed that mid-rails, screens, mesh, intermediate vertical members, solid panels, and equivalent members shall be capable of withstanding, without failure, a force of at least 150 pounds applied in any downward or outward direction at any point along the mid-rail. A modification is proposed to clarify that railings having screens, mesh, or other intermediate members in lieu of mid-rails must provide safety equivalent to that afforded by a mid-rail. The purpose and necessity for this modification is to assure that safety

equivalent to a mid-rail is provided regardless of the intermediate construction between the top rail and the floor, platform, runway or ramp.

Subsection 1620(g).

This subsection, as originally proposed, contained provisions for types of railing construction other than those specifically described by Section 1620. Subsection 1620(g)(1) originally required the top rail to be smooth surfaced. In response to a written comment on the surfacing of railings and based on staff evaluation, subsection (g)(1) has been renumbered as subsection (g) to specifically prescribe that all railings shall be surfaced to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing. The standards for other railing construction [original subsection 1620(g)] are prescribed in a performance manner throughout Section 1620, and specifically in amendments to subsections (a) and (d). The purpose and necessity for these modifications is to protect workers from punctures, lacerations, and snagging of clothing on rough railings and to provide protection at least as effective as federal standards.

Subsection 1620(h).

This subsection was originally proposed for incorporation into subsection (g) which would have prescribed requirements for other types of railing construction. As a result of 15-Day modifications, the proposal specifies the requirements for other types of railing construction in subsections (a), (c), (d), (e), (f) and (g).

Subsection (h) is now proposed to respond to a written comment to clarify that the use of steel banding and plastic banding for top-rails and/or mid-rails is prohibited. The purpose and necessity of this modification is to prohibit the use of steel banding and plastic banding for top-rails and mid-rails and to provide worker protection at least as effective as the federal standards.

SUMMARY AND RESPONSE TO ORAL AND WRITTEN COMMENTS

I. Written Comments

Christopher Lee, Acting Regional Administrator, Region IX, U.S. Department of Labor, by letter dated June 5, 2006.

Comment No. 1:

CSO 1620(g): The federal equivalent, 1926.502(b)(6), requires all aspects of a guardrail system to be surfaced to prevent punctures, lacerations or snagging. As proposed, Section 1620(g) only requires the top rail to be smooth surfaced and does not address the mid-rail or other materials allowed by 1620(a) and (a)(2).

Response:

The Board accepts this comment and proposes to specify that surfacing of all railing members to prevent punctures, lacerations and snagging by inserting new text into Section 1620(g) which will be verbatim of 29 CFR 1926.502(b)(6).

Comment No. 2:

CSO 1620(g): This section, as proposed, does not contain requirements consistent with 1926.502(b)(2)(iii) and (b)(2)(iv) that no openings greater than 19 inches occur when intermediate members or other structural members are utilized in the guardrail system.

Response:

The Board accepts this comment and proposes to amend Section 1620(a)(2) to limit opening size for all railings, comparable to 1926.502(b)(2)(i) through (iv).

Comment No. 3:

There is no section in the proposed standard equivalent to 1926.502(b)(8) which excludes the use of steel banding and plastic banding for top or mid-rails, and they do not believe that sections 1620(a), (c), (d), (e) and (g) implicitly prohibit the use of banding. They believe that certain configurations of steel and plastic banding could meet the requirement of these sections, resulting in injury to employees from punctures, lacerations or snagging of clothes unless wording consistent with 1926.502(b)(6) is present in the California standard.

Response:

The Board accepts this comment and proposes new Subsection 1620(h) to specifically prohibit the use of steel and plastic banding for top-rails and/or mid-rails.

Comment No. 4:

There is no section, existing or proposed, that is equivalent to 1926.502(b)(9) which requires top rail and mid-rail materials to be at least ¼ inch nominal diameter or thickness to prevent cuts and lacerations or which requires wire rope flagged with high visibility material at intervals no more than 6 feet. Proposed section 1620(g) which allows the use of other materials for railings does not preclude the use of wire rope or other materials less than 1/4-inch diameter or thickness. Neither does it require wire rope to be flagged with high visibility material at intervals of 6 feet or less. They note that CSO 1710 covers certain steel erection activities only and is not applicable to all construction as intended by the Federal Standard. Also, section 1710 does not cover other non-wire type materials and ropes and does not require wire ropes utilized in guardrail systems to be flagged with high visibility materials and intervals not to exceed 6 feet.

Response:

The Board notes that existing sections 1620(c) and (d) already address railing cross-section in a performance-oriented manner by prescribing minimum strength requirements. New section 1620(g), added in response to Comment No. 1, also addresses the hazards due to punctures, lacerations (cuts), and snagging.

Flagging at 6-foot intervals, required by Federal standards for 1/4-inch wire rope is unnecessary since compliance with subsections (c), (d) and (g) [added] will preclude the use of this narrow wire rope. Thus, any wire rope that can satisfy those standards will be of sufficient diameter to be readily visible to workers and it will be sufficiently wide to prevent cuts and lacerations which were a concern expressed in FR 59:40672-40753 dated August 9, 1994. Finally, wire rope must be tensioned sufficiently to limit deflection to maintain required minimum railing

height, and most structures encountered in construction (other than steel erection) are not satisfactory for anchoring wire rope railing.

The Board is therefore of the opinion that no further modifications are necessary to respond to this comment.

The Board thanks Federal OSHA, Region IX, for their comments and participation in the rulemaking process.

II. Oral Comments

No oral comments were presented at the June 15, 2006, Public Hearing in Sacramento, California.

MODIFICATIONS AND RESPONSE TO COMMENTS RESULTING FROM THE 15-DAY NOTICE OF PROPOSED MODIFICATIONS

No further modifications to the information contained in the Initial Statement of Reasons are proposed as a result of the 15-day Notice of Proposed Modifications mailed on February 13, 2007.

ADDITIONAL DOCUMENTS RELIED UPON

- U.S. Department of Labor, Occupational Safety and Health Administration, Federal Register, Safety Standards for Fall Protection in the Construction – 59:40672-40753, dated August 9, 1994.

ADDITIONAL DOCUMENTS INCORPORATED BY REFERENCE

None.

DETERMINATION OF MANDATE

These standards do not impose a mandate on local agencies or school districts as indicated in the Initial Statement of Reasons.

ALTERNATIVES CONSIDERED

The Board invited interested persons to present statements or arguments with respect to alternatives to the proposed regulation. No alternative considered by the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective as and less burdensome to affected private persons than the adopted action.