

# SH&E Standards Digest

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## Tech Brief: ANSI/ASSE A10.13-2011 Safety Requirements for Steel Erection

The new standard, “Safety Requirements for Steel Erection” (ANSI/ASSE A10.13-2011), [“Safety Requirements for Steel Erection” \(ANSI/ASSE A10.13-2011\)](#) was approved on April 21, 2011 and took effect on August 15, 2011.

The A10.13 standard establishes safety requirements for the erecting, handling, fitting, fastening, reinforcing and dismantling of structural steel, plate steel, steel joist and metal deck at a final in-place field site during construction and demolition operations.

Past versions of the standard were released in 1972, 1978 and 1989 and 2001.

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## A10.13 Scope, Purpose, Exceptions & Sample Definitions

**1.1 Scope.** This standard establishes safety requirements for erecting, handling, fitting, fastening, reinforcing and dismantling of structural steel, plate steel, steel joist and metal deck at a final in-place field site during construction, maintenance and dismantling operations.

**1.2 Purpose.** This standard is designed to:

1. Reduce the incidence of workplace fatalities, workers injuries and property damage by prescribing minimum safety requirements.
2. Provide direction to persons concerned with, or responsible for, its applications.
3. Guide governments and other regulatory bodies in the development and promulgation of appropriate safety directives.

**1.3 Exceptions.** In cases of practical difficulties, unnecessary hardships or new developments, the enforcing authority may grant exceptions to literal requirements of this standard. These exceptions may permit use of other devices or methods, but only when it is clearly indicated that equivalent safety and permanent installation are thereby secured.

## 2. Referenced & Related Standards

**2.1 Referenced American National Standards.** This standard is intended to be used in conjunction with the latest approved revision of all the American National Standards.

## 3. Definitions

**3.1 Anchored Bridging.** The steel joist bridging that is connected to a bridging terminus point.

**3.2 Bolted Diagonal Bridging.** Diagonal bridging, which is bolted to a steel joist or joists.

**3.3 Bridging Clip.** A device that is attached to the steel joist to allow the bolting of the bridging to the steel joist.

**3.4 Choker.** A wire rope or synthetic fiber rigging assembly used to attach a load to a hoisting device.

**3.5 Clipped Connection.** The connection material on the end of a structural member intended for use in a double connection, which has a notch at the bottom and/or top to allow the bolt(s) of the first member placed on the opposite side

of the central member to remain in place. The notch(es) fits around the nut or bolt head of the opposing member to allow the second member to be bolted up without removing the bolt(s) holding the first member.

**3.6 Cold-Formed Joist.** An open web joist fabricated with cold-formed steel components.

**3.7 Cold Forming.** The process of using press brakes, rolls, or other methods to shape steel into desired cross sections at room temperature.

**3.8 Come-A-Long.** A portable, hand-operated device consisting of a housing, a length of chain or wire rope, two hooks and a ratcheting lever used for miscellaneous pulling.

**3.9 Competent Person.** One who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

**3.10 Composite Joists.** Steel joists designed to act in composite action with concrete floor and/or concrete roof slabs. Typically, a portion of the top chord of the joist (or a lug or similar device attached to the top chord of the joist) is embedded in the concrete slab.

**3.11 Connector.** An employee who, working with hoisting equipment, is placing and connecting structural members and/or components.

**3.12 Construction Load for Joist Erection.** Any load other than the weight of the employee(s), the joists and the bridging bundle.

**3.13 Controlled Decking Zone (CDZ).** An area in which certain work (e.g., initial installation and placement of metal deck) may take place without the use of guardrail systems, personal fall arrest systems or safety net systems and where access to the zone is controlled.

**3.14 Controlled Load Lowering.** Lowering a load by means of a mechanical hoist drum device that allows a hoisted load to be lowered with maximum control using the gear train or hydraulic components of the hoist mechanism. Controlled load lowering requires the use of the hoist drive motor, rather than the load hoist brake, to lower the load.

**3.15 Controlling Contractor.** A prime contractor, general contractor, project manager or any other legal entity at the site who has, by contract with other parties, the overall re-

sponsibility for the projects, its safety planning, quality, lifts over personnel and/or over public property and final completion.

**3.16 Critical Lift.** A lift that exceeds 75 percent of the rated capacity of the crane or derrick, at the given radius, or requires the use of more than one crane or derrick.

**3.17 Deceleration Device.** Any mechanism, which serves to dissipate energy during a fall.

**3.18 Decking Hole.** A gap or void more than 2 inches (5.1cm) in its least dimension and less than 12 inches (30.5cm) in its greatest dimension in a floor, roof or other walking/working surface. Pre-engineered holes in cellular decking are not included in this definition.

**3.19 Double Connection.** An attachment method where the connection point is intended for two pieces of steel which share common bolts on either side of a central piece.

**3.20 Driftpin.** A pin that is tapered at both ends and used to align holes.

**3.21 Erection Bridging.** The bolted diagonal bridging that is required to be installed prior to releasing the hoisting cables from the steel joists.

**3.22 Fall Protection.** A set of fall protection components designed to be assembled under the direction of a competent person to meet the ANSI/ASSE A10.32, Fall Protection Systems for Construction and Demolitions standard requirements.

## Links & Recognition

[A10.13 Press Release](#)

[American National Standards Institute \(ANSI\)](#)

[ANSI Domestic Programs](#)

[ANSI Public Review Procedures](#)

[Bill Treharne Interview](#)

[Laborers' Health & Safety Fund of North America](#)

[Lawrence Berkeley National Laboratories](#)

[OSHA](#)


[State of Nevada](#)

[U.S. Bureau of Reclamation](#)

[U.S. Occupational Safety & Health Review Commission: Secretary of Labor vs. Williams Enterprises Inc.](#)

**First Citation:** Section 29 CFR 1926.750(b)(1)(iii) was designed to prevent persons from falling when working on otherwise unguarded floor perimeters. The Commission has interpreted it to apply to temporary floors that were about three-fourths decked. The Ashton Company. See Adams Steel Erection, Inc., 87 OSAHRC/, 13 BNA OSHC 1073, 1080, 1986-87 CCH OSHD ¶ 27,815, p. 36,406 (No. 77-3804, 1987); Carr Erectors, Inc., 77 OSAHRC 14/C9, 4 BNA OSHC 2009, 1976-77 CCH OSHD ¶ 21,471 (No. 7247, 1977). Respondent's contention that similarities in the text of 29 C.F.R. 1926.750(b)(1)(iii) and some provisions of ANSI A10.13, Safety Requirements for Steel Erection, point to an interpretation that the standard applies only when temporary decking is fully laid, is rejected. Respondent failed to establish any persuasive inference of a nexus between the cited standard and the ANSI standard. The cited standard is an "established federal standard" adopted from rules issued under the Construction Safety Act. See 29 CFR 1910.11 and 1910.12. Moreover, the Commission's interpretation is more consistent with the Act's essential purpose of assuring safe and healthful working conditions for employees.

**Second Citation:** The most persuasive extrinsic evidence of the standard's meaning of which we are aware is found in the provisions of American National Standard Safety Requirements for Steel Erection, ANSI A10.13-1972. Based on the striking similarity between not only the substance but even the language of these two steel erection codes (Subpart R and the ANSI standard), we conclude that the standard cited in this case, section 1926.750(b)(1)(i), was probably derived from section 6 of ANSI A10.13-1972. In any event, because of the consensus procedures followed by ANSI in developing its standards, we view section 6 as a strong indication of the steel erection industry's custom and practice with regard to floor openings. Thus, regardless of whether we characterize it as a source document or merely an indicia of industry custom and practice, we consider ANSI A10.13-1972 to be highly relevant in resolving the issue before us. Section 6 of the ANSI standard reveals that the steel erection industry draws a clear distinction between relatively permanent openings for the purpose of employee movement between floors and temporary openings for the purpose of performing work, like those at issue in this case. These two types of openings are treated differently under the following related provisions of the ANSI standard:



6.1 The derrick or working floor of every building shall be solidly decked over its entire surface except for access openings.

6.11 All unused openings in floors, temporary or permanent, shall be completely planked over or barricaded until such time as they are used.

6.12 Floor planks that are temporarily removed to perform work shall be replaced as soon as possible, or the open area shall be guarded.

We conclude that, under the ANSI standard, the “access openings” referred to in section 6.1 are relatively permanent openings for the purpose of employee movement between floors. In contrast, temporary openings for the purpose of performing work are governed by sections 6.11 and 6.12. [[26]]

We further conclude that the distinction reflected in the ANSI standard was carried over by the Secretary into Subpart R. As indicated, section 6.1 of the ANSI standard finds its counterpart in the cited standard, section 1926.750(b)(1)(i). However, section 6.11 of the ANSI standard also has a counterpart, in 29 CFR § 1926.752(j), which is quoted at note 19 *supra*.