



STEEL DECK INSTITUTE

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Position Statement

# **OSHA STEEL ERECTION STANDARD**

Adopted by SDI - April 2002



On January 18, 2002, OSHA released a new Steel Erection Standard, which sets in place new erection procedures and regulations dealing with the erection of structural steel, steel joists, steel deck, pre engineered buildings, etc. A number of procedures deal with the bundling, handling, and installation of steel deck, some of which require a clarification and/or position by the Steel Deck Institute.

At present, three (3) of the required mandates dealing with the **supplying** of steel deck warrant further clarification and commentary. The three (3) standard items deal with deck holes and openings, gaps around columns, and bundle weights. They are as follows:

**#1 OSHA Federal Register Subpart R.**

Item 1926.754 Structural Steel Assembly

(e) Metal Decking

(2) Roof and floor holes and openings. Metal decking at roof and floor holes and openings shall be installed as follows:

- (i) Framed metal deck openings shall have structural members turned down to allow continuous deck installation except where not allowed by structural design constraints or constructibility.
- (ii) Roof and floor holes and openings shall be decked over. Where large size, configuration or other structural design does not allow openings to be decked over (such as elevator shafts, stair wells, etc.) employees shall be protected in accordance with §1926.760(a)(1).
- (iii) Metal decking holes and openings shall not be cut until immediately prior to being permanently filled with the equipment or structure needed or intended to fulfill its specific use and which meets the strength requirements of paragraph (e)(3) of this section, or shall be immediately covered.

**SDI CLARIFICATION / COMMENTARY**

**(1) It is the responsibility of the project architect/engineer to designate holes/openings to be decked over in compliance with OSHA directive 29 CFR Part 1926.754(e)(2).**

**Care should be taken to analyze opening spans when determining those holes/openings to be decked over. When a framed opening span exceeds the maximum deck span limits for construction loads, the opening must be detailed around instead of decked over. (Minimum roof construction load 30 lbs./sq.ft. - minimum floor construction load 50 lbs./sq.ft., unless job specific requirements dictate otherwise).**

**(2) When a framed hole/opening is shown and dimensioned on the structural design drawings in floor deck, pour stop (screed) angle will be provided from the top of deck to top of slab only. Cell closures will be provided in the strong direction in standard 10'-0" lengths to be field sized, cut and installed. When a hole/opening is not shown and dimensioned on the structural design drawings, no provisions for concrete retainage will be provided by the metal deck manufacturer/supplier.**



**(3) Metal floor decking holes and openings shall not be field cut until concrete has reached 75% of its design strength (minimum seven (7) days, in most cases).**

**#2** OSHA Federal Register Subpart R.

Item 1926.754 Structural Steel Assembly

(e) Metal Decking

(4) Decking gaps around columns. Wire mesh, exterior plywood, or equivalent, shall be installed around columns where planks or metal decking do not fit tightly. The materials used must be of sufficient strength to provide fall protection for personnel and prevent objects from falling through.

**SDI CLARIFICATION / COMMENTARY**

**Coping of deck is a common practice around columns. Mesh and plate column closures are used to fill the open area between columns and adjacent deck, primarily to minimize concrete seepage. Fall protection can be provided by supported deck, if it is coped tightly. Where deck cannot be adequately coped, the erector should provide protection and adequate support.**

**#3** OSHA Federal Register Subpart R.

Item 1926.757 Open Web Steel Joists

(e) Landing and Placing Loads

(4) No bundle of decking may be placed on steel joists until all bridging has been installed and anchored, unless all of the following conditions are met:

(i)

(ii)

(iii)

(iv)

\* (v) The total weight of the bundle of decking does not exceed 4,000 lbs. (1816 kg.)

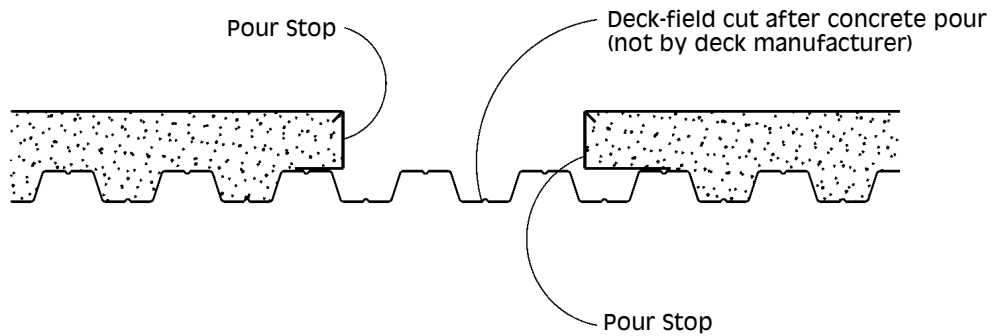
(vi)

**SDI CLARIFICATION / COMMENTARY**

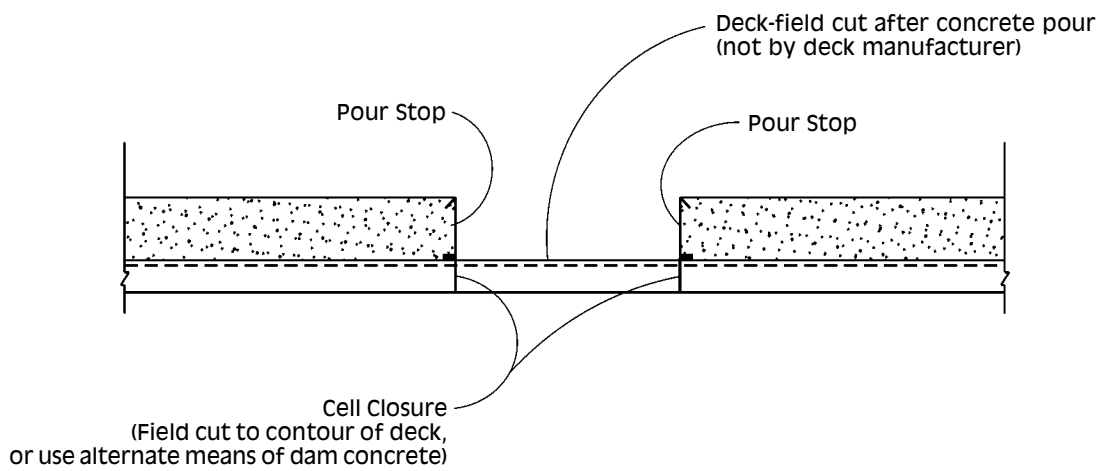
**Deck is banded into bundles that can weigh several thousand pounds, but the deck bundle weights will be limited to a maximum 4,000 lbs. for deck to be applied over steel joists. Deck bundle weights for material to be applied over structural steel frames or other framing systems will be as required to suit job conditions, and to meet safe hoisting, spreading and installation procedures. If heavier or lighter bundles are required because of job conditions, this information must be conveyed to the deck supplier well before production is scheduled. The deck supplier, the erector and the purchaser should all be in agreement about the bundle sizes and weights that are to be delivered to the job.**

# Composite Deck Details

## STANDARD ACCESSORIES AT DECKED OVER OPENINGS



**Typical Detail @ Angle Framed Opening  
(Deck in Weak Direction)**



**Typical Detail @ Angle Framed Opening  
(Deck in Strong Direction)**