

Reinforcing Steel Protection

May 2019

Inspect work area daily, before each work shift, and after any event that may have caused damage.



Injuries and illnesses common to the concrete construction industry are as follows:

- Burns, rashes, and skin irritations from exposure to cement dust or wet concrete
- Silicosis, a respiratory disease caused by inhaling silica dust, from exposure to concrete dust during such operations as concrete cutting, drilling, grinding, or sandblasting
- Broken bones, lacerations, and crushing injuries caused by falls from elevated work surfaces; impalement by rebar or other objects; and impact from falling objects, form and shoring failure, and structural failure of components of the project

Because the hazards associated with concrete construction are great, employees must use appropriate personal protective equipment and conform to safe work practices at all times

§1712. Reinforcing Steel and Other Similar Projections.

(a) Scope. This section applies to all work sites and locations where employees work around or over exposed, projecting, reinforcing steel or other similar projections.

(b) Definitions.

Job-Built. As used in this section, protective covers and troughs usually constructed at the job-site of wood or other materials of equal or greater strength and designed specifically for covering exposed ends of reinforcing steel or other similar projections at a specific job-site.

Protective Covers. Manufactured or job-built apparatus designed to cover exposed ends of reinforcing steel or other similar projections so as to prevent impalement.

Troughs. Manufactured or job-built protective covers designed to cover two or more exposed ends of reinforcing steel or other similar projections so as to prevent impalement, and which meet the applicable requirements in subsection (d).

(c) Protection from Reinforcing Steel and Other Similar Projections.

(1) Employees working at grade or at the same surface as exposed protruding reinforcing steel or other similar projections, shall be protected against the hazard of impalement by guarding all exposed ends that extend up to 6 feet above grade or other work surface, with protective covers, or troughs.

(2) Employees working above grade or any surface and exposed to protruding reinforcing steel or other similar projections shall be protected against the hazard of impalement. Protection shall be provided by:

(A) The use of guardrails, or

(B) Approved fall protection systems meeting the design requirements of Article 24, or

(C) Protective covers as specified in subsection (d).

(3) Protective covers shall not be used to protect against impalement where the maximum height of fall exposure, to the top of the protective cover, exceeds 7 1/2 feet, unless the protective covers meet the requirement of subsection (d)(4)(D).

(d) Protective Covers, Specifications, Testing and Approval.

(1) Protective covers shall be made of wood, plastic, or other materials of equal or greater strength.

(2) Protective covers shall have a minimum 4-inch by 4-inch square surface area, or if round, a minimum diameter of 4 1/2 inches.

(3) Manufactured protective covers shall meet the following requirements:

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(A) Manufactured protective covers shall be approved as provided for in Section 1505 and be legibly marked with the manufacturer's name or logo.

(B) Manufactured protective covers made before October 1, 2000 shall, at the minimum, be capable of withstanding the impact of a 250-pound weight dropped from a height of 10 feet without penetration failure of the cover.

(C) Manufactured protective covers made on or after October 1, 2000 shall meet the testing requirements of Section 344.90.

(4) Job-built protective covers shall meet the following requirements:

(A) Job-built protective covers shall be designed as specified by an engineer currently registered in the State of California. A copy of the engineering drawing(s) depicting the job-built protective covers shall be kept at the worksite and made available to the Division upon request.

Exception: Job-built troughs as depicted in Appendix Plate C-25 may be used as a substitute for engineered or manufactured protective covers when employees are working at heights not greater than 6 feet above grade or other working surface.

(B) Job-built wood protective covers and troughs shall be constructed of at least "Standard Grade" Douglas Fir, as graded by either the Western Lumber Grading Rules 98, handbook, effective March 1, 1998, published by the Western Wood Products Association, or the Standard No. 17 Grading Rules for West Coast Lumber, handbook, effective September 1, 1991 and revised January 1, 2000, published by the West Coast Lumber Inspection Bureau, which are hereby incorporated by reference.

(C) Job-built protective covers, except for troughs as depicted in Appendix Plate C-25, shall, at the minimum, be capable of withstanding the impact of a 250-pound weight dropped from a height of 10 feet without penetration failure of the cover.

Note: The drop test requirement in subsection (d)(4)(C) applies to protective covers used to prevent employee impalement where the employee is exposed to fall heights of up to 7 1/2 feet.

(D) Drop test specifications for job-built protective covers listed in subsection (d)(4)(C) shall be modified where fall heights greater than 7 1/2 feet are anticipated, to ensure that the protective cover can withstand increased impact loading.

(e) Fall Protection.

Employees shall not be permitted to place or tie reinforcing steel in walls, piers, columns, etc., more than 6 feet above an adjacent surface, unless a personal fall protection system is used in accordance with Section 1670 or other method affording equivalent protection from the hazard of falls from elevated surfaces.

Exception: Point-to-point horizontal or vertical travel on reinforcing steel up to 24 feet above the surface below providing there are no impalement hazards.

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(f) Securing Reinforcing Steel.

(1) Reinforcing steel for walls, piers, columns, and similar vertical structures shall be guyed and supported to prevent collapse.

(A) Guys, supports, and braces shall be installed and removed as directed by a qualified person.

(2) Wire mesh rolls shall be secured to prevent dangerous recoiling action.

NOTE

Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

HISTORY

1. Renumbering from section 1713 filed 11-1-73; effective thirtieth day thereafter (Register 73, No. 44).
2. Amendment of subsection (a) and new subsections (b), (c) and (d) filed 2-19-75; effective thirtieth day thereafter (Register 75, No. 8).
3. Amendment of subsection (a) filed 4-27-79; effective thirtieth day thereafter (Register 79, No. 17).
4. Amendment filed 6-21-85; effective thirtieth day thereafter (Register 85, No. 25).
5. Repealer of subsection (a) and adoption of subsections (a)-(d)(5), relettering and amendment of former subsection (b) to subsection (e), relettering of former subsection (c) to subsection (f), and relettering of former subsection (d) to subsection (g) filed 11-8-93; operative 12-8-93 (Register 93, No. 46).
6. Amendment of subsection (e) filed 7-30-97; operative 8-29-97 (Register 97, No. 31).
7. Amendment of section heading and section filed 2-3-2004; operative 3-4-2004 (Register 2004, No. 6)

Mushroomed Cap Alert
Mushroomed caps cannot be used as
impalement protection.

EMPLOYEE TRAINING AND INSTRUCTION RECORD

Subject: Implement Protection

Location: _____

Instructor's name & Signature: _____

Date of Session: / / Time Started : am / pm Time Finished : am / pm

Please print your name and job title. Then sign your name.

ATTENDEES:

Print Name	Job Title	Signature