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• **Standard Number:** 1926.701

May 29, 1997

MEMORANDUM FOR: CONSTRUCTION COORDINATORS

FROM: RUSSELL B. SWANSON, DIRECTOR
Directorate of Construction

SUBJECT: Rebar Caps

The January 15, 1997, memo addressing the small mushroom style plastic rebar caps, commonly used in construction, was issued to provide information on studies conducted by the California Division of Occupational Safety and Health (Cal/OSHA) showing the general ineffectiveness of rebar caps as impalement protection under requirements in 29 CFR 1926.701(b). A number of offices as well as many in the construction community interpreted the memo as a new policy statement and a general ban on the use of small plastic rebar caps for any purpose. There is no change in OSHA policy nor is there a ban on the general use of the small plastic rebar caps as recommended by their manufacturer.

The standard, 29 CFR 1926.701(b), states: "all protruding reinforcing steel, onto and into which employees could fall, shall be guarded to eliminate the hazard of impalement." The key words are "to eliminate the hazard of impalement." Exposure to impalement is always a consideration when employees are working above rebar or other sharp protrusions. The critical element when evaluating any job activity is the recognition or identification of impalement hazards and the exposure to employees. As you know, construction activities constantly change and contractors must remain aware of and provide protection from or alternate work practices to eliminate impalement hazards.

When employees are working at any height above exposed rebar, fall protection/prevention is the first line of defense against impalement. Fall protection/prevention is also applicable when the rebar is below grade, e.g., footings or other excavations, where a fall into a trench would present an impalement hazard. When work is at grade, impalement exposure is dependent upon numerous situations and conditions; proximity of rebar to worker, height of rebar, e.g., working around rebar that is 3-6 feet high would not likely pose an impalement hazard. Rebar caps/covers are appropriate to prevent cuts, abrasions or other minor injuries when working at grade and there is no impalement hazard.

Please ensure that all compliance personnel, local contractors and labor organizations are informed of this clarification and they understand that 1926.701(b) addresses the hazard of impalement and not the use of rebar caps.

If you have any other questions or need further clarification, contact Tony Brown at (202) 219-8136.

January 15, 1997

MEMORANDUM FOR: CONSTRUCTION COORDINATORS

FROM: RUSSELL B. SWANSON,
Directorate of Construction

SUBJECT: Mushroom Style Plastic Rebar Covers Used For
Impalement Protection.

The California Associated General Contractors recently issued a warning to remind the construction industry that mushroom style rebar caps are not sufficient to eliminate the Hazard of impalement. Recent testing indicates that the standard mushroom style plastic rebar covers DO NOT provide any protection from the hazards of impalement, even from a short fall of three feet. Therefore, the mushroom caps do not meet the "guarded" requirement of 1926.701(b). Tests designed by California OSHA were conducted that entailed dropping sand-filled canvas bags onto rebar protected by standard mushroom caps. Weights of the bags ranged from 140 to 160 pounds and the bags were dropped from three, five and seven feet. The mushroom CAPS provided absolutely NO protection.

Manufacturers of the mushroom caps agree that those CAPS were designed to provide SCRATCH PROTECTION ONLY and were never intended to prevent impalement, even at grade.

Considering the serious nature of the hazard, the standard mushroom style plastic rebar CAPS should not be used for protection against impalement. Protective device (covers or wooden troughs) capable of withstanding at least 250 pounds dropped from a height of ten feet should be used. Although there are no "approved mushroom caps" on the market, steel reinforced covers and wooden troughs are available and have been approved by California OSHA and recognized by the California AGC to meet the design criteria.

Compliance and consultation personnel should be aware of the potential serious hazard of contractors using rebar CAPS as impalement protection and the studies conducted by California OSHA. Consideration of employee activity should be evaluated when rebar CAPS are encountered on a construction site. If employees are working above the rebar on ladders, scaffolds or platforms, fall protection controls should be in place.

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