

Subpart Q—Concrete and Masonry Construction

AUTHORITY: Sec. 107, Contract Work Hours and Safety Standards Act (Construction Safety Act) (40 U.S.C. 333); Secs. 4, 6 and 8 Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, and 657); Secretary of Labor's Order No. 12-71 (36 FR 8754), 8-76 (41 FR 25059), 9-83 (48 FR 35736), or 1-90 (55 FR 9033), as applicable; and 29 CFR part 1911.

SOURCE: 53 FR 22643, June 16, 1988, unless otherwise noted.

§ 1926.700 Scope, application, and definitions applicable to this subpart.

(a) *Scope and application.* This subpart sets forth requirements to protect all construction employees from the hazards associated with concrete and masonry construction operations performed in workplaces covered under 29 CFR part 1926. In addition to the requirements in subpart Q, other relevant provisions in parts 1910 and 1926 apply to concrete and masonry construction operations.

(b) *Definitions applicable to this subpart.* In addition to the definitions set forth in § 1926.32, the following definitions apply to this subpart.

(1) *Bull float* means a tool used to spread out and smooth concrete.

(2) *Formwork* means the total system of support for freshly placed or partially cured concrete, including the mold or sheeting (form) that is in contact with the concrete as well as all supporting members including shores, reshores, hardware, braces, and related hardware.

(3) *Lift slab* means a method of concrete construction in which floor, and roof slabs are cast on or at ground level and, using jacks, lifted into position.

(4) *Limited access zone* means an area alongside a masonry wall, which is under construction, and which is clearly demarcated to limit access by employees.

(5) *Precast concrete* means concrete members (such as walls, panels, slabs, columns, and beams) which have been formed, cast, and cured prior to final placement in a structure.

(6) *Reshoring* means the construction operation in which shoring equipment (also called reshores or reshoring equipment) is placed, as the original

forms and shores are removed, in order to support partially cured concrete and construction loads.

(7) *Shore* means a supporting member that resists a compressive force imposed by a load.

(8) *Vertical slip forms* means forms which are jacked vertically during the placement of concrete.

(9) *Jacking operation* means the task of lifting a slab (or group of slabs) vertically from one location to another (e.g., from the casting location to a temporary (parked) location, or from a temporary location to another temporary location, or to its final location in the structure), during the construction of a building/structure where the lift-slab process is being used.

[53 FR 22643, June 16, 1988, as amended at 55 FR 42328, Oct. 18, 1990]

§ 1926.701 General requirements.

(a) *Construction loads.* No construction loads shall be placed on a concrete structure or portion of a concrete structure unless the employer determines, based on information received from a person who is qualified in structural design, that the structure or portion of the structure is capable of supporting the loads.

(b) *Reinforcing steel.* All protruding reinforcing steel, onto and into which employees could fall, shall be guarded to eliminate the hazard of impalement.

(c) *Post-tensioning operations.* (1) No employee (except those essential to the post-tensioning operations) shall be permitted to be behind the jack during tensioning operations.

(2) Signs and barriers shall be erected to limit employee access to the post-tensioning area during tensioning operations.

(d) *Riding concrete buckets.* No employee shall be permitted to ride concrete buckets.

(e) *Working under loads.* (1) No employee shall be permitted to work under concrete buckets while buckets are being elevated or lowered into position.

(2) To the extent practical, elevated concrete buckets shall be routed so that no employee, or the fewest number of employees, are exposed to the hazards associated with falling concrete buckets.

(f) *Personal protective equipment.* No employee shall be permitted to apply a cement, sand, and water mixture through a pneumatic hose unless the employee is wearing protective head and face equipment.

[53 FR 22643, June 16, 1988, as amended at 59 FR 40730, Aug. 9, 1994]

§ 1926.702 Requirements for equipment and tools.

(a) *Bulk cement storage.* (1) Bulk storage bins, containers, and silos shall be equipped with the following:

- (i) Conical or tapered bottoms; and
- (ii) Mechanical or pneumatic means of starting the flow of material.

(2) No employee shall be permitted to enter storage facilities unless the ejection system has been shut down, locked out, and tagged to indicate that the ejection system is not to be operated.

(b) *Concrete mixers.* Concrete mixers with one cubic yard (.8 m³) or larger loading skips shall be equipped with the following:

(1) A mechanical device to clear the skip of materials; and

(2) Guardrails installed on each side of the skip.

(c) *Power concrete trowels.* Powered and rotating type concrete troweling machines that are manually guided shall be equipped with a control switch that will automatically shut off the power whenever the hands of the operator are removed from the equipment handles.

(d) *Concrete buggies.* Concrete buggy handles shall not extend beyond the wheels on either side of the buggy.

(e) *Concrete pumping systems.* (1) Concrete pumping systems using discharge pipes shall be provided with pipe supports designed for 100 percent overload.

(2) Compressed air hoses used on concrete pumping system shall be provided with positive fail-safe joint connectors to prevent separation of sections when pressurized.

(f) *Concrete buckets.* (1) Concrete buckets equipped with hydraulic or pneumatic gates shall have positive safety latches or similar safety devices installed to prevent premature or accidental dumping.

(2) Concrete buckets shall be designed to prevent concrete from hanging up on top and the sides.

(g) *Tremies.* Sections of tremies and similar concrete conveyances shall be secured with wire rope (or equivalent materials) in addition to the regular couplings or connections.

(h) *Bull floats.* Bull float handles, used where they might contact energized electrical conductors, shall be constructed of nonconductive material or insulated with a nonconductive sheath whose electrical and mechanical characteristics provide the equivalent protection of a handle constructed of nonconductive material.

(i) *Masonry saws.* (1) Masonry saws shall be guarded with a semicircular enclosure over the blade.

(2) A method for retaining blade fragments shall be incorporated in the design of the semicircular enclosure.

(j) *Lockout/Tagout Procedures.* (1) No employee shall be permitted to perform maintenance or repair activity on equipment (such as compressors, mixers, screens or pumps used for concrete and masonry construction activities) where the inadvertent operation of the equipment could occur and cause injury, unless all potentially hazardous energy sources have been locked out and tagged.

(2) Tags shall read *Do Not Start* or similar language to indicate that the equipment is not to be operated.

§ 1926.703 Requirements for cast-in-place concrete.

(a) *General requirements for formwork.*

(1) Formwork shall be designed, fabricated, erected, supported, braced and maintained so that it will be capable of supporting without failure all vertical and lateral loads that may reasonably be anticipated to be applied to the formwork. Formwork which is designed, fabricated, erected, supported, braced and maintained in conformance with the Appendix to this section will be deemed to meet the requirements of this paragraph.

(2) Drawings or plans, including all revisions, for the jack layout, formwork (including shoring equipment), working decks, and scaffolds, shall be available at the jobsite.

(b) *Shoring and reshoring.* (1) All shoring equipment (including equipment used in reshoring operations) shall be