

16.3: Lift-Slab Operations

Lift-Slab Operations

Design

Lift-slab operations shall be designed and planned by a registered professional engineer who has experience in lift-slab construction. Such plans and designs shall be implemented by the employer and shall include detailed instructions and sketches indicating the prescribed method of erection. These plans and designs shall also include provisions for ensuring lateral stability of the building/structure during construction.

Jacks/lifting units

Jacks/lifting units shall be marked to indicate their rated capacity as established by the manufacturer. Jacks/lifting units shall not be loaded beyond their rated capacity as established by the manufacturer.

Jacks/lifting units shall be designed and installed so that they will neither lift nor continue to lift when they are loaded in excess of their rated capacity.

Jacks/lifting units shall have a safety device installed which will cause the jacks/lifting units to support the load in any position in the event any jacking unit malfunctions or loses its lifting ability.

Jacking equipment

Jacking equipment shall be capable of supporting at least two and one-half times the load being lifted during jacking operations and the equipment shall not be overloaded. For the purpose of this provision, jacking equipment includes any load bearing component, which is used to carry out the lifting operation(s). Such equipment includes, but is not limited to the following: threaded rods, lifting attachments, lifting nuts, hook-up collars, T-caps, shearheads, columns, and footings.

Jacking operations

Jacking operations shall be synchronized in such a manner to ensure even and uniform lifting of the slab. During lifting, all points at which the slab is supported shall be kept within $\frac{1}{2}$ inch of that needed to maintain the slab in a level position.

If leveling is automatically controlled, a device shall be installed that will stop the operation when the $\frac{1}{2}$ inch tolerance level is exceeded or where there is a malfunction in the jacking (lifting) system.

If leveling is maintained by manual controls, such controls shall be located in a central location and attended by a competent person while lifting is in progress. In addition to meeting the definition of "competent person" the competent person must be experienced in the lifting operation and with the lifting equipment being used.

The maximum number of manually controlled jacks/lifting units on one slab shall be limited to a number that will permit the operator to maintain the slab level within specified tolerances of paragraph (g) of this section, but in no case shall that number exceed fourteen.

Employee positioning

No employee, except those essential to the jacking operation, shall be permitted in the building/structure while any jacking operation is taking place unless the building/structure has been reinforced sufficiently to ensure its integrity during erection. The phrase "reinforced sufficiently to ensure its integrity" used in this paragraph means that a registered professional engineer, independent of the engineer who designed and planned the lifting operation, has determined from the plans that if there is a loss of support at any jack location, that loss will be confined to that location and the structure as a whole will remain stable.

Under no circumstances, shall any employee who is not essential to the jacking operation be permitted immediately beneath a slab while it is being lifted.

Masonry Construction

General

A limited access zone shall be established whenever a masonry wall is being constructed. The limited access zone shall conform to the following:

1. The limited access zone shall be established prior to the start of construction of the wall.
2. The limited access zone shall be equal to the height of the wall to be constructed plus four feet, and shall run the entire length of the wall.
3. The limited access zone shall be established on the side of the wall, which will be unscaffolded.
4. The limited access zone shall be restricted to entry by employees actively engaged in constructing the wall. No other employees shall be permitted to enter the zone.
5. The limited access zone shall remain in place until the wall is adequately supported to prevent overturning and to prevent collapse unless the height of the wall is over eight feet, in which case, the limited access zone shall remain in place until the permanent supporting elements of the structure are in place.

Bracing

All masonry walls over eight feet in height shall be adequately braced to prevent overturning and to prevent collapse unless the wall is adequately supported so that it will not overturn or collapse. The bracing shall remain in place until permanent supporting elements of the structure are in place.

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