

**Case 256. 61-year-old brick mason died when he was struck by a collapsing 38-foot-high, 100-foot-long tubular welded frame scaffold that was overloaded with block as it was being enclosed with a plastic wind enclosure.**

A 61-year-old male brick mason died when he was struck by a collapsing 38-foot-high, 100-foot-long tubular welded frame scaffold that was overloaded with block as it was being enclosed with a plastic wind enclosure. The wall footing only had been poured. The scaffold had 18 towers that consisted of three frames wide and a single bar between each tower and each level. There was approximately seven feet between each tower. Each level was fully planked. Hilti pins, penetrating 1/2-inch into the footing, held some of the northernmost scaffold base plates of the stocked scaffold sections. On the north side of where the block wall was going to be built there were three separate scaffold set ups to brace the main scaffold; one section at each end and one in the middle. The north sections were three frames wide and three jacks high and were tied to the south section with pipes clamps at each end of the frames. Some but not all of the east and middle section base plates were fastened to the footing with Hilti pins. After stocking the scaffold, the crew began to install the plastic wind enclosure. After lunch, the crew continued to install the enclosure. After the enclosure was installed around the entire scaffold, the wind caused the scaffold to move back and forth, causing the mud sills to bend and the scaffold to fall from the west to the east in a northerly direction. The decedent was struck by the falling scaffold and block. Emergency response was called and he was transported to a local hospital where he was declared dead.

MIOSHA Construction Safety and Health Division personnel issued the following Serious, Willful Serious, and Repeat Serious citations at the conclusion of its investigation.

**SERIOUS: SCAFFOLDS AND SCAFFOLD PLATFORMS, PART 12**

- **RULE 1209(1)**

This rule supplements and clarifies the requirements of R408.40114(2) of construction safety standard Part 1. General Rules as the rule relates to the hazards of work on scaffolds. An Employer shall have each employee who performs work on a scaffold trained by a person qualified in scaffold safety. The training shall enable an employee to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize the hazards. The training shall include the following areas as applicable:

- (a) The nature of any electrical hazards, fall hazards, and falling object hazards in the work area.
- (b) The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used.

- (c) The proper use of the scaffold, and the proper handling of materials on the scaffold.
- (d) The maximum intended load and the load-carrying capacities of the scaffolds used.
- (e) Any other pertinent requirements.—

The foreman did not receive proper instruction from a competent person on erecting the tubular welded frame scaffold including proper cross bracing, 4 to 1 height ratio, load capacities, and proper wind enclosure procedures. The employees were installing a wind screen enclosure around a tubular welded framed scaffold that was approximately 100 feet long and 38 feet high. The scaffold was not properly guyed, or tied, and was overloaded when it collapsed by the south wall footing. The average wind gusts throughout the day were 20 mph.

- RULE 1209(2)

An employer shall have each employee who is involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold trained by a competent person to recognize and hazards associated with the work in question. The training shall include the following topics, as applicable:

- (a) The nature of scaffold hazards.
- (b) The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold being used.
- (c) The design criteria, maximum intended load-carrying capacity, and intended use of the scaffold.
- (d) Any other pertinent requirements.----

The employees did not receive proper instruction from a competent person on erecting the tubular welded frame scaffold including proper cross bracing, 4 to 1 riation height, load capacities, and proper wind enclosure procedures. The employees were installing a wind screen enclosure around a tubular welded framed scaffold that was approximately 100 feet long and 38 feet high. The scaffold was not properly guyed or tied, and was overloaded when it collapsed by the south wall footing. The average wind gusts throughout the day were 20 mph.

- RULE 1210(11)

The support for a scaffold shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Leveling jack adjusting screws, when used, shall not extend more than 18 inches below the base of the scaffold. Unstable objects, such as barrels, boxes, pallets, brick, or concrete blocks, shall not be used to

support a scaffold or work platform. Scaffold poles, legs, posts, frames, and uprights shall bear on base plates and mud sills or other adequate firm foundation. ---

The northwest base dimension for scaffolding setup consisted of three frames wide and three frames high. The base plates were bearing on loose stone and did not have any mud sills installed. The employees were installing a wind screen enclosure around the tubular welded frame scaffold approximately 100 feet long and 38 feet high when it collapsed by the south wall footing. The average wind gusts throughout the day were 20 mph.

- RULE 1210(12)

Scaffold components that are not designed to be compatible shall not be intermixed. Winter wind screen enclosure hoops were not designed or installed in accordance with the manufacturer's specifications.

Employees were enclosing a tubular welded frame scaffold approximately 100 feet long and 38 feet high when it collapsed by the south wall footing. The average wind gusts throughout the day were 20 mph.

#### WILLFUL SERIOUS: SCAFFOLDS AND SCAFFOLD PLATFORMS, PART 12

- RULE 1210(5)

A scaffold shall not be loaded to more than the designed working load.

The employees were installing a wind screen enclosure around a tubular welded framed scaffold that was approximately 100 feet long, 38 feet high, and overloaded beyond the manufacturers specifications when the scaffold collapsed by the south wall footing.

- RULE 1212(2)

Work on or from scaffolds is prohibited during storms or high winds unless a competent person has determined that it is safe from employees to be on a scaffold and that the employees are protected by a personal fall arrest system. Wind screens shall not be used unless the scaffold is secured against the anticipated wind forces imposed.

The employees were installing a wind screen enclosure around a tubular welded framed scaffold that was approximately 100 feet long, 38 feet high and not properly secured by the south wall footing when the scaffold collapsed. The average wind gusts throughout the day were 20 mph.

- RULE 1224(2)

The scaffold shall be braced by cross bracing or diagonal braces, or both, for securing vertical members together laterally. The cross braces shall be of sufficient length so that the erected scaffold is always plumb, square, and rigid. All brace connections shall be made secure.

The scaffold cross bracing was not installed in accordance with the manufacturers specifications. The scaffold sections next to the footing were braced with one cross brace on the inside of the frames. The employees were installing a wind screen enclosure around a tubular welded framed scaffold that was approximately 100 feet long and 38 feet high when the scaffold collapsed by the south wall footing. The average wind gusts throughout the day were 20 mph.

- RULE 1224(5)

A guy, tie, and brace shall be installed according to the scaffold manufacturer's recommendations or at the closest horizontal member to the 4 to 1 ratio height and be repeated vertically at locations of horizontal members every 20 feet (6.1 meters) or less thereafter for a scaffold 3 feet (0.91 meters) wide. The top guy, tie, or brace of a completed scaffold shall be placed no further than 4 to 1 ratio height from the top. A guy, tie, and brace shall be installed at each end of the scaffold and at horizontal intervals of not more than 30 feet (9.1 meters) measured from one end, not both, towards the other. Outriggers, when used, may; be considered as part of the base dimension when installed on each corner of the long side at intervals of not more than 20 feet.

The employees were building a tubular welded framed scaffold that was approximately 100 feet long and 38 feet high, not properly guyed, tied, or braced when the scaffold collapsed by the south wall footing . The average wind gusts throughout the day were 20 mph.

**REPEAT SERIOUS: GENERAL RULES, PART 1, Rule 114(1)**

An accident prevention program was not developed, maintained, and coordinated with employees.

The employees were installing a wind screen enclosure around a tubular welded framed scaffold that was approximately 100 feet long and 38 feet high, not properly guyed, tied off, or braced, and overloaded when the scaffold collapsed by the south wall footing. The

safety program does not address wind screen installations. The average wind gusts throughout the day were 20 mph.

This is a repeat violation of an inspection dated 03/09/2010.