

Self-Employed Residential Contractor Dies in Ten Foot Fall Through Floor Opening on Massachusetts Construction Site

Investigation: # 99-MA-022-01

Release Date:

SUMMARY

On March 30, 1999, a 39-year-old male self-employed residential construction contractor (victim) was fatally injured when he fell 10 feet through a floor opening striking his head on the concrete chimney footing below. The victim was working with a co-worker to true up the gable end of the second floor of a single family home under construction. The victim was holding a level to the gable end wall when he apparently stepped backwards into the opening in the floor intended for a chimney. Two laborers were on the second floor level with the victim, one went to assist the victim while the other laborer went to call for emergency assistance. The local police department, fire department, and state police arrived and the victim was transported to a local hospital where he was pronounced dead. The MA FACE Program concluded that to prevent similar occurrences in the future, residential contractors including self-employed contractors should:

- **Keep all holes/openings in walking/working surfaces covered throughout all phases of construction.**
- **Develop a safety program that includes, but is not limited to evaluating and preventing hazards, such as those related to falls before beginning tasks.**

INTRODUCTION

On April 1, 1999, the MA FACE Program was notified by OSHA that on March 30, 1999, a 39-year-old self-employed male residential construction contractor was fatally injured when he fell through an uncovered floor opening while framing the second floor of a new single family house. An investigation immediately was initiated. The MA FACE Program Director and an investigator traveled to the job site where the town's Police Sergeant and Sheriff were interviewed on April 26, 1999. The death certificate, OSHA fatality/catastrophe report, and photographs of the site were obtained during the investigation.

The victim was a self-employed residential construction contractor. At the time of the incident, the victim employed two laborers. The company did not have a written safety plan. The number of employees would vary with the amount of work the victim had and the size of the job. There is no union representation in this company.

INVESTIGATION

On March 30, 1999, a residential construction crew was erecting a new, two-story single family house. The owner of the residential construction company and two laborers were working at the site when the incident occurred. The contractors were framing the second floor and attempting to true up the end gable of the 25 foot by 14 foot second floor master bedroom. The victim apparently stepped back and fell through two uncovered floor openings for the chimney: one in the second floor master bedroom and the other located in the first floor family room. He landed in the ground level crawlspace with his head striking the concrete chimney footing. The two laborers were working with the victim on the second floor of the house at the time of the incident. One of the laborers went down to the crawlspace to check on the victim while the other laborer went to call for emergency assistance. The local fire department, police department, and state police arrived and the victim was transported to a local hospital where he was pronounced dead.

Both the second and the first floors were decked with plywood except for the two chimney floor openings, which were uncovered at the time of the incident. Each floor opening for the chimney measured approximately 5 feet 4 inches wide by 4 feet. During the investigation the distance the victim fell before striking his head on the concrete footing was measured at approximately 10 feet.

CAUSE OF DEATH

The medical examiner listed the cause of death as multiple skull fractures.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Keep all holes/openings in walking/working surfaces covered throughout all phases of construction.

Discussion: A hole is defined by OSHA as a gap or void two inches or more in its least dimension, in a floor, roof, or other walking/working surface. The OSHA construction fall protection regulation 29 CFR 1926.501 (b)(4) states:

"(i) Each employee on walking/working surfaces shall be protected from falling through holes (including skylights) more than 6 feet above lower levels, by personal fall arrest systems, covers, or guardrail systems erected around such holes. (ii). Each employee on a walking/working surface shall be protected from tripping in or stepping into or through holes (including skylights) by covers. (iii). Each employee on a

walking/working surface shall be protected from objects falling through holes (including skylights) by covers."

In this case, there were two unprotected floor openings in the residential structure. The openings were intended for a chimney and were aligned directly over each other on the first and second floors. The simple solution to protect workers from this hazard would be to use a piece of plywood that is at least one-half inch thick as a cover for each opening. Covering the openings with a piece of plywood will eliminate employees from potentially tripping, falling, or stepping into the opening. In addition, the covered openings will eliminate the chance that an object could fall through the opening injuring an employee below.

In some situations, because the nature of the work, an open opening might be needed. In this type of situation another type of fall protection would be required. This could be a personal fall arrest system or the use of guardrails, which is also covered in 29 CFR 1926.501.

Recommendation #2: Self-employed individuals should develop a safety program that includes, but is not limited to, evaluating and preventing hazards, such as those related to falls before beginning tasks.

Discussion: The victim, a self-employed residential construction contractor, did not have a written safety and health program at the time of the incident. A safety program for a self-employed residential contractor could consist of a checklist of precautions beginning at the planning stage of the project and continuing throughout different phases of the project. Hazard analysis at different phases of construction should be conducted before starting or on a daily basis if necessary. Checklists for small businesses are available on the OSHA web site at www.osha.gov.

For residential contractors a safety and health program should include but not be limited to identifying fall hazards and appropriate controls for these hazards. In this case, a hazard analysis before beginning the work on the second floor would have identified the two uncovered chimney floor openings and the need for covers for these openings.

OSHA rarely inspects small businesses but the regulations still apply to these small businesses. Employers of all sizes and their employees should look at OSHA standards as safe work practices. If these safe work practices are implemented into all tasks they can prevent occupational injuries and deaths.

REFERENCES

Code of Federal Regulations, Labor 29 Part 1926.501 (b) (4) Duty To Have Fall Protection.

ILO, Safety and Health in Construction: An ILO code of practice, Geneva, International Labor Office, 1992

Figure 1 - Gable End 2nd Floor Family Room



Figure 2 - Floor Opening and Concrete Chimney Footing

