



The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces
through safety and health research



Carpenter Dies Following an 11-foot Fall from a Roof in North Carolina.

FACE 9028

SUMMARY

A carpenter died after falling 11 feet from the roof of a garage under construction. Prior to the incident, the walls of the garage had been finished with brick veneer, the roof trusses were covered with sheets of plywood, and the framework for a dormer, which was located on the apex of the garage roof, had been completed. On the day of the incident, the victim and a co-worker were assigned the task of boxing up (i.e., closing in, by nailing sheathing to studs or otherwise encasing) the dormer. The men climbed a ladder to the roof, ascended the roof to the dormer, and positioned themselves on opposite sides of the dormer. The victim apparently slipped or tripped, fell to a sitting position, and slid feet-first down and off the edge of the roof. He struck the back of his head on the brick veneer garage wall upon landing at ground level. The victim was pronounced dead approximately 24 hours later in the local hospital. NIOSH investigators concluded that, in order to prevent future similar occurrences, employers should:

- **implement 29 CFR 1926.104, which requires the use of safety belts, lifelines, and lanyards when working from elevations**
- **consider and address worker safety in the planning phase of construction projects**
- **develop, implement, and enforce a comprehensive safety program that includes, but is not limited to, training in fall hazard recognition and the use of fall protection devices.**

INTRODUCTION

On February 22, 1990, a 34-year-old male carpenter died after falling 11 feet from a garage roof the previous day. On February 22, 1990, officials of the North Carolina Occupational Safety and Health Administration (OSHA) notified the Division of Safety Research (DSR) of the death, and requested technical assistance. On March 29, 1990, two safety specialists from DSR travelled to the incident site, and conducted an investigation. The DSR investigators reviewed the incident with the owner of the company, the job site foreman, and the state OSHA compliance officer assigned to the case, investigated and photographed the incident site, and obtained a copy of the victim's death certificate.

The employer is a general contractor who has been in operation for 23 years. The contractor employs 205 workers, including 15 carpenters. The contractor has no designated safety officer or written safety procedures, but does conduct bi-weekly "tool box" safety meetings from safety articles obtained outside the company. The victim had worked for the employer for 3 years and 5 months.

INVESTIGATION

The general contractor had started work on a private residence with an attached 26-foot by 39-foot garage, 4 months prior to the incident. The structure had been partially completed. The foundation, framing, exterior walls, wiring, plumbing, and windows had all been installed; and the roof trusses had been covered with plywood sheeting.

On the morning of the incident, a total of 10 workers (brick masons, laborers, and carpenters) were continuing work on the structure at different locations. The victim and a co-worker had been assigned to complete boxing up the dormer located on the apex of the garage roof. The roof had a 5:12 pitch (i.e., the roof rose 5 inches for every 12 feet in length) with bare plywood sheeting covering the roof trusses. The edge of the roof was approximately 11 feet above the ground (Figure).

Prior to the incident, the walls of the garage had been finished with brick veneer, the roof trusses were covered with sheets of plywood, and the framework for a dormer, which was located on the apex of the garage roof, had been completed. On the day of the incident, the victim and his co-worker climbed a ladder to the garage roof and proceeded to the dormer. The workers positioned themselves on opposite sides of the dormer and started to work. Exactly what happened is unknown, but the victim either slipped or tripped, fell to a sitting position, then slid feet-first down the plywood covered roof and fell off the roof edge. The victim fell approximately 11 feet to the ground where he struck the back of his head against the brick veneer garage wall. The jobsite foreman, who was approximately 20 feet away talking with a mason, saw the victim fall and strike the ground. The foreman told the mason to telephone for help. An emergency medical unit arrived in less than 5 minutes. They stabilized the victim and then transported him to the local hospital. The victim was pronounced dead approximately 24 hours later.

CAUSE OF DEATH

The death certificate listed the cause of death as severe head injury. An autopsy was not performed.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should implement 29 CFR 1926.104, which requires the use of safety belts, lifelines, and lanyards when working from elevations.

Discussion: When working from elevations employers should provide personal protective equipment (PPE) (i.e., safety belt, lifeline, and lanyard) to employees exposed to fall hazards. Employers should provide and enforce the use of PPE in accordance with 29 CFR 1926.104. (1)

Recommendation #2: Employers should address worker safety in the planning phase of construction projects.

Discussion: Worker safety issues should be discussed and incorporated into all construction projects during planning and throughout the entire project. The planning for and incorporation of safety measures, prior to any work being performed at construction sites, will help to identify potential worker hazards so that preventive measures can be implemented at the site.

Recommendation #3: Employers should develop, implement, and enforce a comprehensive safety program.

Discussion: Employers should emphasize safety of their employees by developing, implementing, and enforcing a comprehensive safety program. The safety program should include, but not be limited to, training workers in the proper selection and use of PPE, along with the recognition and avoidance of fall hazards.

REFERENCE

(1) Office of the Federal Register: Code of Federal Regulations, Labor 29 Part 1926. pp.105-106. July 1, 1989.

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