



MICHIGAN STATE UNIVERSITY: Prevention of work-related injuries & illnesses through research & investigation

FATAL FALLS IN CONSTRUCTION

Falls continue to be the leading cause of death for construction workers nationwide. In Michigan, 173 out of the 485 work-related deaths in the construction industry from 2001-2017, or 36%, were due to falls. Figures 1 and 2, below, show the number of falls by working surface at the time of the fall and by fall height, respectively. **Roofs and ladders were the two most common work surfaces from which workers experienced fatal falls**, and the largest number of falls were from 10-25 ft, followed by 25-50 ft. **Fatal falls can occur from any height**, with 24 fatal falls having occurred from heights of less than 10 ft.

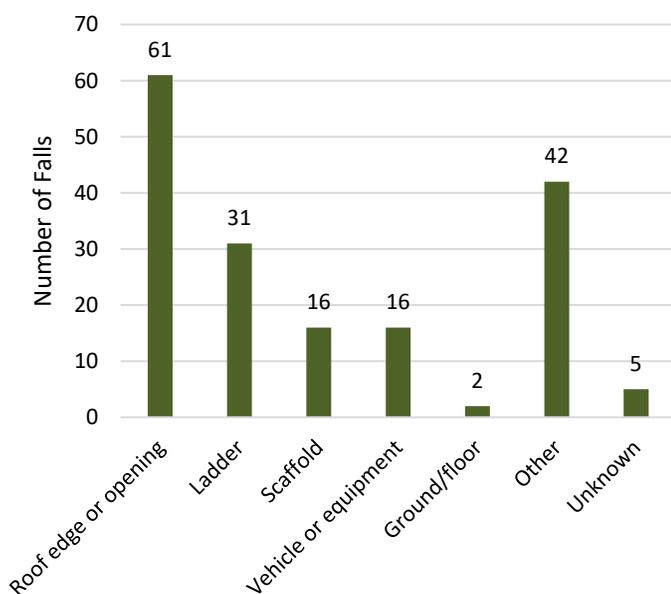


Figure 1: Fatal construction falls by working surface

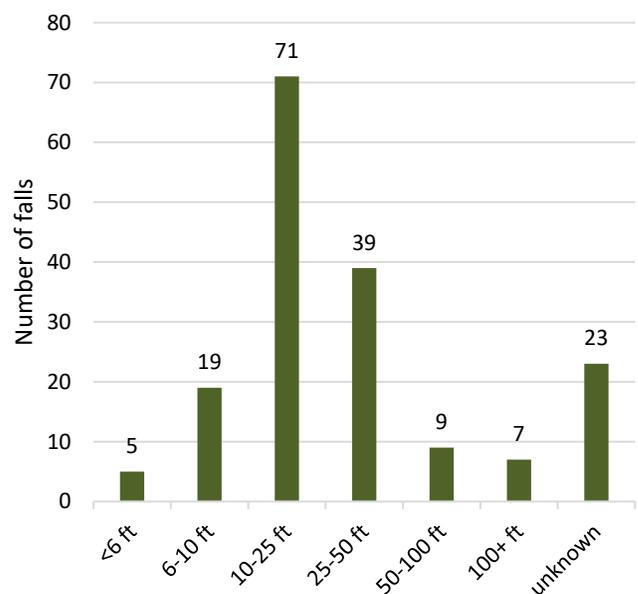


Figure 2: Fatal construction falls by fall height

FATAL CONSTRUCTION FALL EXAMPLES FROM MIFACE

- A roofer died after he lost his balance and fell from the peak of a 10/12-pitch roof while installing a metal drip edge near a dormer.
- A construction laborer was killed when he fell 7 feet from an unsecured fiberglass ladder without safety feet.
- A brick mason died after falling from a scaffold from which he and his partner were placing brick on the front of a new residential building.
- An electrician died after falling from a vehicle-mounted elevated work platform while attempting to remove a flagpole.
- A demolition laborer died when the 2nd-story floor collapsed underneath him.
- An ironworker died after falling 120 feet while erecting a monopole cell tower.
- A painter fell 120-130 feet from a water tower he had been painting.



PREVENTING FATAL FALLS IN CONSTRUCTION

The Occupational Safety and Health Administration (OSHA) recommends a three-step process to preventing fatal falls in construction:

1. PLAN

- ✓ **PLAN ahead to get the job done safely.** This means identifying potential fall hazards and what safety equipment is needed during the planning stage of the project.

PLAN

ahead to get the job done safely.

2. PROVIDE

- ✓ **PROVIDE the right equipment.** Safety equipment only protects workers if the employer provides it at the worksite. It must be the right safety equipment for the job.

PROVIDE

the right equipment.

3. TRAIN

- ✓ **TRAIN workers to use the equipment safely.** Every worker must be trained on how to set-up and use safety equipment properly. They must also be trained on identifying fall hazards on the jobsite.

TRAIN

everyone to use the equipment safely.

RESOURCES

- OSHA's Stop Falls website provides educational materials, training resources, and prevention videos for workers and employers, covering ladders, scaffold, aerial devices and elevated work platforms, fall protection, and more for a wide variety of construction sectors and project types.
<https://www.osha.gov/stopfalls/>
- Michigan OSHA (MIOSHA) provides numerous publications and videos pertaining to construction falls, as well as guidance pertaining to MIOSHA fall- and construction-related standards.
https://www.michigan.gov/lara/0,4601,7-154-89334_11407_15317-402966--,00.html
- The National Institute for Occupational Safety and Health (NIOSH) also provides resources, as well as their Ladder Safety App for smartphones and an Aerial Lift Hazard Recognition Simulator. The NIOSH FACE database houses numerous in-depth investigations into fatal falls, their contributing factors, and prevention recommendations.
<https://www.cdc.gov/niosh/construction/stopfalls.html>
- The Center for Construction Research and Training (CPWR) provides materials for an 8-hour Fall Protection Program, as well as guides and handouts for instructors and students.
<https://www.cpwr.com/training/fall-protection>
- The website for the annual National Safety Stand-Down to prevent falls in construction contains training and resources organized by topic, including many in Spanish.
<https://stopconstructionfalls.com/prevent-falls-training-other-resources/>

DID YOU KNOW?

According to a 2008 study, the average total cost of a fatality in construction was **\$3.9 million**, while the average cost for an injury involving days away from work in construction was **\$42,093/injury**.

However, the average cost of a **fall to a lower level** leading to an injury was **\$58,019** and was ranked the costliest type of injury in construction.

A different report by OSHA estimates the **cost of a fall to range from \$62,000-\$106,000 each**

Sources:

“Cost of Occupational Injuries in Construction in the U.S.”

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2491397/>

“OSHA adds up the high cost of construction falls”

<https://www.ishn.com/articles/92384-osh-adds-up-the-high-cost-of-construction-falls>