

# MICHIGAN HAZARD ALERT



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

### FATAL CONSTRUCTION FALLS FROM HEIGHTS

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Falls continue to be the leading cause of death for construction workers nationwide. In Michigan, 246 out of the 691 (35.6%) work-related deaths in the construction industry from 2001-2024, 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 portable ladders were the two most common work surfaces from which workers experienced fatal falls**, and the largest number of falls were from 16-25 ft, followed by 10-15 ft. **Fatal falls can occur from any height**, with 7 fatal falls having occurred at ground level.

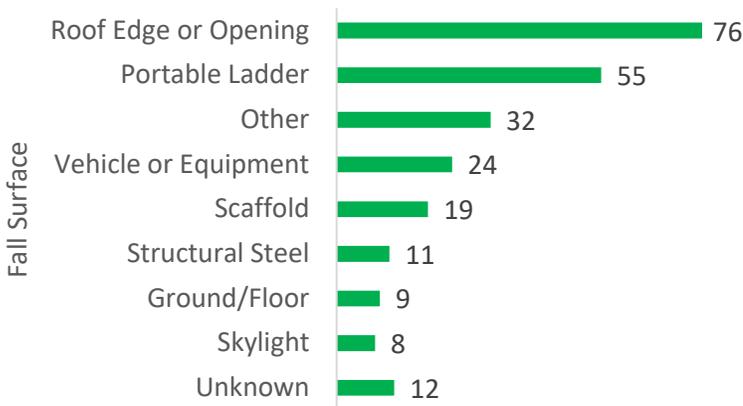


Figure 1: Number of fatal construction falls by working surface

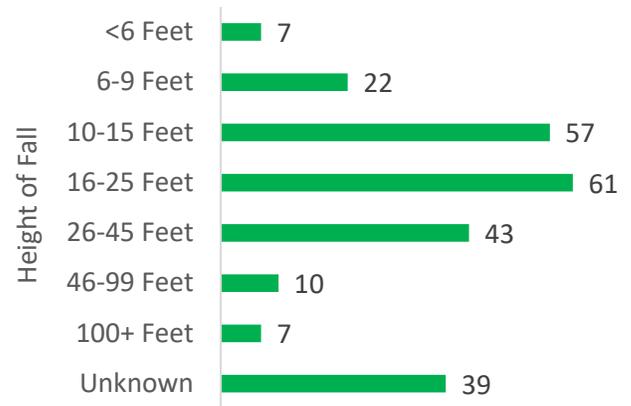


Figure 2: Number of fatal construction falls by fall height

### EXAMPLES OF FATAL CONSTRUCTION FALLS FROM HEIGHT IN MICHIGAN

- 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 died when he fell 7 feet from an unsecured fiberglass ladder without safety feet. When he leaned outside the ladder rails, the ladder shifted, one ladder leg came off of the ground causing him to fall to the snow and water-covered floor.
- A male siding installer died when the north roof bracket failed and he slid down the roof, falling 9 feet to the asphalt below (Photo 2).
- A male master electrician died due to a fall from a 10-foot stepladder while advancing low voltage wiring above the 10-foot drop ceiling.
- A male construction worker was in a forklift container elevated 9 feet traveling on a paved road when the container struck a parked trailer and broke into pieces.



Photo 2. MIFACE Investigation #06MI117: Male siding installer dies after falling from a roof while installing a J channel on a dormer

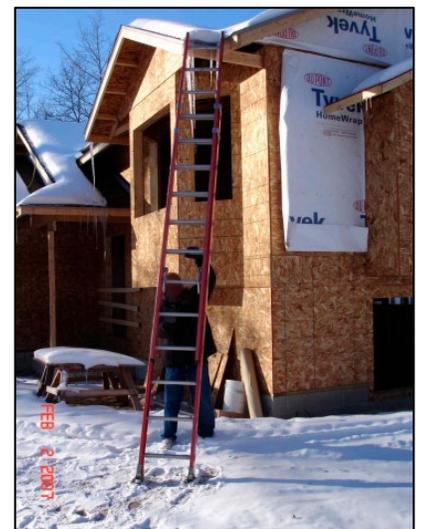


Photo 1. MIFACE Investigation #07MI007: Carpenter dies after fall from a ladder that slipped from its base while positioned on frozen sand

- An ironworker died after falling 120 feet while erecting a monopole cell tower.
- A male painter died from an approximate 20- to 30-foot fall from an extension ladder while painting an area to the right of a chimney on the exterior of a residence.
- A male roofer died after falling approximately 30- to 35-feet through a gap in the roofing to a concrete barn floor while removing and replacing metal sheeting on a dairy barn roof.

# PREVENTING FATAL FALLS FROM HEIGHTS IN CONSTRUCTION

Michigan OSHA and Federal OSHA **require** Construction industry employers **to provide**, and all workers working in the Construction industry **to utilize** appropriate fall protection when working at heights of 6 feet or more above a lower level, and when working from a scaffold 10 feet or more above ground level.



## 1. PLAN

**PLAN ahead to get the job done safely.** Planning = Performing a [Job Safety Analysis](#) (JSA) or a [Job Hazard Analysis](#) (JHA). Identify potential fall hazards, including but not limited to, elevated work areas, unprotected edges and openings, access and egress points, work surface conditions, and equipment-related fall risks. Use the [Hierarchy of Controls](#) to implement measures to minimize or eliminate the identified fall hazards. If elimination (the gold standard!) is not possible, then consider fall protection strategies (e.g., guardrails, hole covers, ladder safety devices, safety nets, positioning systems, fall restraints, personal fall arrest systems [PFAS]) based on the hazards identified and any work modifications (e.g., using a scissor lift vs. ladder) implemented.

## 2. PROVIDE

**PROVIDE the right fall protection equipment based on the hazard assessment.** Fall protection equipment only protects workers if it is the right equipment for the job, is provided at the worksite, and is utilized correctly. If a PFAS is selected, ensure the ABCs are followed (rated Anchorage, Body harness is appropriately fitted, Connection device is appropriately selected). The [total fall clearance distance](#) must be calculated to ensure that the worker does not contact the lower level.

## 3. TRAIN

**TRAIN everyone to use equipment safely, every time they are working at a height requiring fall protection.** Training programs must enable each employee to recognize the hazards associated with the work, the fall hazards at the site, and the required procedures to minimize the hazards.

## RESOURCES

- OSHA's [Fall Prevention Campaign](#) website provides educational materials, training resources, and prevention videos for a wide variety of construction sectors and project types.
- The National Institute for Occupational Safety and Health (NIOSH) [National Campaign to Prevent Falls](#) provides resources, as well as their Ladder Safety App in English and Spanish and an [Aerial Lift Hazard Recognition Simulator](#). The NIOSH Fatality Assessment and Control Evaluation ([FACE](#)) database houses numerous NIOSH FACE and State FACE fatal fall in-depth investigations, their contributing factors, and prevention recommendations. NIOSH FACE [Prevent Construction Falls from Roofs, Ladders, and Scaffolds](#) offers recommendations, reports, and resources prevent fall injuries and deaths from roofs, ladders, and scaffolds.
- The Center for Construction Research and Training ([CPWR](#)) contains links to fall prevention resources in both English and Spanish on their [Stop Construction Falls](#) webpage.
- The [National Safety Stand-Down](#) website to prevent falls in construction contains training and resources organized by topic, including many in Spanish.
- Michigan OSHA (MIOSHA) [Fall Prevention – Stop Falls. Save Lives](#) webpage provides numerous publications and videos pertaining to construction falls, as well as guidance pertaining to MIOSHA fall- and construction-related standards.

### DID YOU KNOW?

A self-retracting lifeline minimizes free fall distance and increases the chance of self-rescue compared to a shock-absorbing lanyard.

Falls are the leading cause of death AND the second leading cause of nonfatal injuries in the Construction industry.

It will take only one second from when you fall from a height of 16 feet for you to hit the ground.

Portable ladders are exempted from the Fall Protection Standard.