MICHIGAN State FACE Program
Fatality Assessment & Control Evaluation

# Construction Fatality Summary

## INCIDENT FACTS

**REPORT #:**
22MI115

**REPORT DATE:**
June 4, 2025

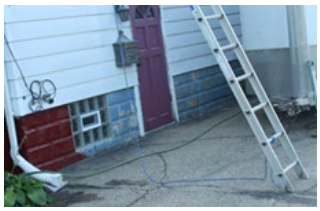
**INCIDENT DATE:**
August 23, 2022

**WORKER:**
46-year-old

**INDUSTRY:**
Roofing Contractors

**OCCUPATION:**
Regional Supervisor

**EVENT TYPE:**
Fall



**Police photo showing the distance of the base of the ladder from the home measured at 9 feet 9 inches.**

**An example of the metal trim the decedent was carrying.**

# Roofer Dies after Contact with Power Line Causes Fall

## SUMMARY

A 46-year-old crew leader for a metal roofing company died after falling approximately 18 feet onto concrete while ascending a Werner 32-foot aluminum extension ladder. The decedent was the supervisor on the site, and according to the employer, well experienced. The incident occurred after the employees' lunch break in the early afternoon, around 6 hours after work began for the day. A total of six employees were onsite at the time of the incident, all from the same employer.

**Incident scene: ladder placement (in green) and overhead line location (in red).**

At some point during the day, the decedent set the aluminum extension ladder against the home. MIOSHA measured the 2nd story roof height at 20 feet and police measured the base of the ladder 9 feet 9 inches from the home. The MIOSHA investigation found the distance between the home and the high voltage overhead line to be approximately 10 feet.

His coworkers were at the back of the house. As the decedent was climbing the ladder carrying the 10-foot-long piece of metal trim, he was called to by another worker. When the decedent turned to respond to his coworker, the metal trim contacted the live, high voltage overhead line. His coworkers indicated to responding police that it appeared that the decedent "seized up" and fell backwards off the ladder. It appeared that the metal trim conducted the current and shocked the decedent, causing him to lose his grip on the ladder and fall to the concrete driveway below, hitting his head. When emergency responders arrived on scene, the decedent was not breathing. EMS initiated CPR and he was transported to a local hospital where he was declared dead later that day.

The major contributing factor to this incident was the decedent's selection and placement of the ladder. Rather than access the roof in an area that was not adjacent to overhead lines, the ladder was placed near these lines and, especially given the 10-foot-long metal trim he was carrying, increased the likelihood of electrical contact. Additionally, the selection of a ladder that conducts electricity rather than a non-conductive ladder contributed to the electricity running to ground. When working near electricity, a non-conductive ladder should be selected.

Possibly contributory was the angle at which the ladder was placed. The ladder placement did not follow the required 4:1 rule so the ladder did not meet the required 75.5° angle; the approximate ladder angle was 64.8°. The ladder base should have been positioned approximately 5 feet from the home rather than 9 feet 9 inches. The ladder angle coupled with the length of the metal trim as the decedent climbed the ladder may have placed the trim close enough to contact the overhead line.

Non-contributory to the fall included that the top of the ladder did not extend at least 3 feet above the upper 2nd story roof, was not secured, and was not equipped with safety feet.

## REQUIREMENTS

**Employers must:**

- Employers must provide training on the proper inspection and use of portable ladders for each employee who uses a ladder. See R 408.41112 Training Requirements
- A manufactured portable metal ladder shall not be used for electrical work or where the ladder or an employee may contact electrical conductors. See R 408.41124 Portable Ladders

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## RECOMMENDATIONS

**MIFACE investigators concluded that, to help prevent similar occurrences, employers should:**

- Perform a Job Hazard Analysis (JHA) for each worksite to identify job-specific dangers and establish safety measures to mitigate them. A JHA would have identified a job-specific danger (high voltage overhead lines) and established safety measures which could have included:
    - Setting up the job site by utilizing MIOSHA Fact Sheet Electrical Safety: Power Line Clearances for guidance when performing any work near the high voltage line.
    - Require vertical hoisting with no swing and a safety observer with temporary PVC poles and colored flag line set up to remind all workers of the overhead power lines
    - Request the power company to place insulating covers on the lines (safety orange color) right across the roof for the duration of the job
- Ensure that employees are trained to properly set up and use portable ladders, and ensure that the following guidelines are adhered to by all employees setting up and using ladders:
    - When working near electricity, select a non-conductive ladder. A metal ladder must not be used or moved unless a minimum of 20 feet is maintained between power transmission or distribution lines. (MIOSHA R 408.41124 Portable Ladders)
    - Inspect the ladder prior to use.
    - Ensure ladders extend at least 3 feet above the upper landing surface to which workers are ascending to/descending from.
    - Confirm proper ladder angle prior to use: For every 4 feet of height, measuring from the point at which the ladder contacts the upper landing surface, the base of the ladder must be placed 1 foot away from the wall (a 75° angle).
    - Place non-conductive ladders a safe distance away (10 or more feet) from energized power lines. If this is not possible, a ground spotter should be used to watch people using the ladder and ensure they are not placing themselves in danger.

## CITATIONS

**MIOSHA Construction Safety and Health Division issued the following serious citations at the conclusion of its investigation.**

- Serious: 408.41122(4): CS PART 11, FIXED AND PORTABLE LADDERS
    - An employee who is on a ladder shall not overreach or do any pushing or pulling that may cause the ladder to move or topple. If both of an employee's shoulders are outside of a side rail, the employee is overreaching.
- Serious: 408.41124(1): CS PART 11, FIXED AND PORTABLE LADDERS
    - A portable ladder must be used at such a pitch that the horizontal projected distance from the top support to the base is not more than 1/4 of the vertical distance between these points.
- Serious: 408.41124(5): CS PART 11, FIXED AND PORTABLE LADDERS
    - When portable ladders are used for access to an upper landing surface, the ladder side rails must extend not less than 3 feet (0.9 m) above the upper landing surface to which the ladder is used to gain access; or, when such an extension is not possible because of the ladder's length, then the ladder must be secured at its top to rigid support that will not deflect and a grasping device, such as a grab-rail, shall be provided to assist employees in mounting and dismounting the ladder. The side rails shall not extend in a manner that would permit ladder deflection under a load, by itself, to cause the ladder to slip off its support. The top of a non-self-supporting ladder shall be placed with the 2 rails supported equally, unless the ladder is equipped with a single support attachment.
- Serious: 408.22139(1): ADM PART 11, RECORDING AND REPORTING OF OCCUPATIONAL INJURIES AND ILLNESSES
    - Fatalities. Within 8 hours after the death of any employee from a work-related incident, you must report the fatality by telephone to the MIOSHA toll-free central telephone number: 1-800-858-0397.

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