

Wisconsin Construction Safety Newsletter

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Do you know fall hazards when you see them?

You know what a fall hazard is right? Here's a summary of what they are and how to evaluate them.

What is a fall hazard? A fall hazard is anything in the workplace that could cause an unintended loss of balance or bodily support and result in a fall. Fall hazards cause accidents such as the following:

- A worker walking near an unprotected leading edge trips over a protruding board.
- A worker slips while climbing an icy stairway.
- A makeshift scaffold collapses under the weight of four workers and their equipment.
- A worker carrying a sheet of plywood on a flat roof steps into a skylight opening.

Fall hazards are foreseeable. You can identify them and eliminate them before they cause injuries.

How to evaluate fall hazards. The purpose of evaluating fall hazards is to determine how to eliminate or control them before they can cause injuries.

Below are important factors to consider in conducting an evaluation:

- Involve others. You may need others to help you evaluate fall hazards. Involve those who may be exposed to fall hazards and their supervisors; they'll help you identify the hazards and determine how to eliminate or control them. Involving others also strengthens your safety and health

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No fall protection
being used.



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programs. Your insurance carrier and OSHA State Consultation will also help you evaluate fall hazards. To request an on – site evaluation from State Consultation you can call 1-800-947-0553.

- Determine how workers will access elevated surfaces to perform their tasks. Will workers be using portable ladders, supported scaffolds, aerial lifts, or suspension platforms to reach their work areas? Which ones will they use? How and where will they use the equipment?
- Identify tasks that could expose workers to falls. Using a set of worksite plans, review the entire construction project. Evaluate each phase of the project from the ground up. Ensure that all walking/working surfaces have the strength to support workers and their equipment, then identify all tasks that could expose workers to falls. A walking/working surface is any surface horizontal or vertical on which a person walks or works.
- Identify hazardous work areas. Determine if workers’ tasks could expose them to the following fall hazards:
 - Holes in walking/working surfaces that they could step into or fall through.
 - Elevated walking/working surfaces 10 feet or more above a lower level.
 - Skylights that workers could step into or fall through.
 - Wall openings such as those for windows or doors that workers could fall through.
 - Trenches and other excavations that workers could fall into.
 - Hoist areas where guard rails have been removed to receive materials.
 - Leading edges – edges of floors, roofs, and decks – that change location as additional sections are added.
- Determine how frequently workers will do tasks that expose them to falls. The more frequently a worker is exposed to a fall hazard the more likely it is that the worker could fall.
- Determine whether workers need to move horizontally, vertically, or in both directions to do their tasks. How workers move to perform tasks can affect their risk of falling. Knowing how they move to perform tasks can help you determine how to protect them.
- Determine the number of workers exposed to fall hazards. Generally, the more workers that are exposed to a fall hazard, the more likely it is one could fall.
- Identify fall hazards that you can eliminate. Eliminating a fall hazard is the most effective fall – protection strategy. Ways to eliminate falls include:
 1. Perform construction work on the ground before lifting or tilting it to a elevated position.

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No fall protection being used.

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2. Install permanent stairs early in the project so the workers don't need to use ladders between floors.
 3. Use tool extensions to perform work from the ground.
- Consider administrative practices. Administrative practices help prevent falls by influencing the way people work. Examples include substituting a safe work practice for a risky one, training workers to do their jobs safely, and disciplining those who don't follow safe practices.

Electrical: Coated hand tools may not protect you from electrical hazards

Recently, while removing lighting on a demolition project, a worker inadvertently cut an energized power cord with a pair of pliers that caused a spark and a hole in the cutting portion of the pliers. The worker used pliers with plastic-coated handles made for ergonomic comfort; however, this type of coating doesn't insulate against electrical current and doesn't provide a complete safety barrier.

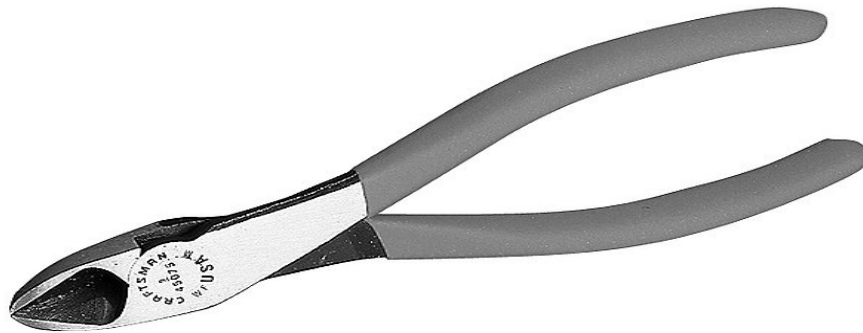
Some hand tools such as electrically-rated lineman's pliers have insulated handles that are designed to withstand specific voltage levels – for example, 1000 volts a.c. The coated pliers that most workers use are not electrically rated. Insulated hand tools must be covered with material that protects the user from electric shock and minimizes the risk of a short circuit. The American Society for Testing and Materials (ASTM F1505) and the International Electrotechnical Commission (IEC 60900) specifies the requirements for selecting and using insulated hand tools.

OSHA's standard requires employers to have safe work practices that protect employees who work near or on energized equipment or circuits. Live parts that an employee may be exposed to must be de-energized before the employee works on or near them. If de-energizing live parts makes the work more hazardous or is not feasible, employers must use other effective safe practices.

Never assume that a hand tool is acceptable for work on energized equipment because it has a plastic coating on its handles. Although insulated hand tools must meet specific industry standards, they provide only a partial barrier from electrical hazards. The safest way to work on electrical equipment is to make sure that it's de-energized before you begin.



Typical pliers with electrical insulation.



Typical pliers with comfort grips.



No fall protection being used.

OSHA Revises Its Penalty Calculation System

For only the second time in the agency’s history, OSHA is revising its penalty calculation system. Employers can expect these changes to result in higher penalties per citation. They are in the process of being implemented by local OSHA offices.

The original Occupational Safety and Health Act of 1970 allows OSHA to assess civil penalties to employers who violate the agency’s regulations and standards. In his testimony this past July to Congress on provisions of the Mine Safety and Health Act, which addresses current OSHA laws, David Michaels, PhD, MPH, Assistant Secretary of Labor, stated OSHA’s position on the need to increase inspection penalties.

“Safe jobs exist when employees have adequate incentives to comply with OSHA requirements. Those incentives are affected, in turn, by both the magnitude and the likelihood of penalties. Swift, certain and meaningful penalties provide an important incentive to “do the right thing.” However, OSHA's current penalties are not large enough to provide adequate incentives, especially for large employers. Currently, serious violations - those that pose a substantial probability of death or serious physical harm to workers - are subject to a maximum civil penalty of only \$7,000. Let me emphasize that - a violation that causes a "substantial probability of death - or serious physical harm" brings a maximum penalty of only \$7,000. Willful and repeated violations carry a maximum penalty of only \$70,000.

“Congress has increased the OSH Act's monetary penalties only once in 40 years despite inflation during that period. Unscrupulous employers often consider it more cost effective to pay the minimal OSHA penalty and continue to operate an unsafe workplace than to correct the underlying health and safety problem. The current penalties do not provide an adequate deterrent. This is apparent when OSHA penalties are compared with penalties that other agencies are allowed to assess.

“For example, in 2001 a tank full of sulfuric acid exploded at an oil refinery in Delaware, killing Jeff Davis, a worker at the refinery. His body literally dissolved in the acid. The OSHA penalty was only \$175,000. Yet, in the

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same incident, thousands of dead fish and crabs were discovered, allowing EPA to assess a \$10 million penalty for violating the Clean Water Act. How do we explain to Jeff Davis' wife Mary, and their five children, that the penalty for killing fish and crabs is so much higher than the penalty for killing their husband and father?"

The revision to the penalty structure is not increasing the maximum gravity-based penalty of \$7000. It is changing the penalty adjustment factors which are used any time an inspection penalty is calculated. There are nine factors and a brief description of each change is as follows:

1. **History Reduction**—The time frame for considering an employer's history of violations will expand from three years to five. An employer who has been inspected by OSHA within the previous five years and has not been issued any serious, willful, repeat, or failure-to-abate citations will receive a 10 percent reduction for history.
2. **History Increase**—An employer that has been cited by OSHA for any high gravity serious, willful, repeat, or failure-to-abate violations within the previous five years will receive a 10 percent increase in their penalty, up to the statutory maximum. Employers who have not been inspected and those who have received citations for serious violations that were not high gravity will receive neither a reduction nor an increase for history.
3. **Repeat Violations**—The time period for considering the classification of repeated violations will be increased from three to five years.
4. **Severe Violator Enforcement Program**—Where circumstances warrant, at the discretion of the Area Director, high gravity serious violations related to standards and hazards identified in the SVEP will not normally be grouped or combined, and may be cited as separate violations, with individual proposed penalties.
5. **Gravity-Based Penalty (GBP)**—The gravity of a violation is the primary consideration in calculating penalties and is established by assessing the severity of the injury/illness which could result from a hazard and the probability that an injury or illness could occur. OSHA is adopting a gravity-based penalty structure for serious citations which will range from \$3,000 to \$7,000.
6. **Size Reduction**—OSHA will be amending its penalty reduction structure based on the size of employers, allowing for a penalty reduction between 10 and 40 percent for those with less than 250 employees. No size reduction will be applied for employers with 251 or more employees.
7. **Good Faith**—The current good faith procedures in the Field Operations Manual will be retained. A penalty reduction is permitted in recognition of an employer's effort to implement an effective workplace safety and health program. Employers must have a safety and health program in place to get any good faith reduction. Good faith reductions are not allowed in the cases of high gravity serious, willful, repeat, or failure-to-abate violations.
8. **The 15% Quick-Fix reduction**, which is currently allowed as an abatement incentive program to encourage employers to immediately abate hazards identified during inspections, remains unchanged. However, the 10% reduction for employers with a strategic partnership agreement will be eliminated.
9. **Minimum Penalties**—The minimum proposed penalty for a serious violation will be increased to \$500. When the proposed penalty for a serious violation would amount to less than \$500, a \$500 penalty will be proposed for that violation. The proposed minimum penalty for a posting violation will increase to \$250 if the company was previously provided a poster by OSHA.
10. **Additional Administrative Modifications to the Penalty Calculation Policy**—Final penalties will be calculated serially, unlike the current practice where all penalty reductions are added and the total percentage of reductions is then multiplied by the gravity-based penalty to arrive at the proposed penalty. All penalty adjustment factors will be applied serially.

OSHA Revises Its Severe Violators Enforcement Program

OSHA has completed another revision to its Severe Violators Enforcement Program (SVEP) directive and it went into effect on June 18, 2010. This program focuses on employers who continually disregard their legal obligations to protect their workers. It applies OSHA-wide, regardless of the size of the employer.

SVEP is a tool that OSHA area offices use to address employers who repeatedly and willfully endanger workers by exposing them to serious hazards. Employers who meet the criteria for being SVEP employers may be subject to increased enforcement activity, such as mandatory follow-up inspections. These employers may also find that OSHA is inspecting other workplace locations of the same company where similar hazards or deficiencies may be apparent.

The entire directive that outlines the program can be found on the OSHA web site; the document number is CPL 02-00-149, Severe Violator Enforcement Program (SVEP). Although there is not enough space in this newsletter to explain the program in detail, the criteria for landing on the SVEP list are as follows:

- Criteria for a Severe Violator Enforcement Case. Any inspection that meets one or more of criteria A. through D., at the time that the citations are issued, will be considered a severe violator enforcement case.
 - A. A fatality/catastrophe inspection in which OSHA finds one or more willful or repeated violations or failure-to-abate notices based on a serious violation related to a death of an employee or three or more hospitalizations.
 - B. An inspection in which OSHA finds two or more willful or repeated violations or failure-to-abate notices (or any combination of these violations/notices), based on high gravity serious violations related to a high-emphasis hazard. (High emphasis hazards are explained in greater detail in the directive)
 - C. An inspection in which OSHA finds three or more willful or repeated violations or failure-to-abate notices (or any combination of these violations/notices), based on high gravity serious violations related to hazards due to the potential release of a highly hazardous chemical, as defined in the Process Safety Management standard, 1910.119.
 - D. All egregious (e.g., per-instance citations) enforcement actions will be considered SVEP cases.

How easy is it to end up on an OSHA area office's SVEP list? An example of one case is that of a common general industry inspection scenario: A compliance officer conducts a local emphasis program inspection for amputations. While on-site, the compliance officer observes employees exposed to machine guarding and lockout hazards and cites the employer for two high-gravity willful violations of 29 CFR 1910.212 and 1910.147. This inspection meets the criteria outlined in item B above and the case is subject to SVEP.

Employer and employee groups looking for more detailed information about the SVEP program can contact their local OSHA area offices or go to the OSHA web site (www.osha.gov). Employers looking to upgrade their safety and health efforts should contact the Wisconsin Onsite Consultation program at 1-800-947-0553 for their free services (applies to employers with less than 250 employees at any location and no more than 500 employee corporate-wide).



No fall protection being used.



Region 5 Construction Fatalities for February 2010 to August 2010

SIC code and accident description

1741—Masonry, Stone Setting, and Other Stone Work

At a new commercial building project, a school, a laborer was working with a mason and the laborer was putting tools away near the interior block wall when the base of the block wall failed and crushed the laborer. The wall was 12 feet tall and 15 feet long.

1741—Masonry, Stone Setting, and Other Stone Work

Two laborers were crushed by a barn that collapsed. The laborers were working with masons on a gut/rehab of a chicken barn and were assisting in repairing a 100 foot section of exterior masonry wall. Severe weather including strong winds occurred and may have contributed to the collapse. Three other employees working in the building managed to escape.

1611—Highway and Street Construction, Except Elevated Highways

At an interstate highway roadway patching project that was 5 miles in length and lasted 2 weeks a worker was struck by a passing semi-trailer truck. The project had a traffic control plan and an engineer on site throughout the project. At the time of the incident the project was completed and the employee was using his personal truck and was loading orange traffic barrels when he was struck. He was wearing all the high visibility gear that was required for the project.

1799—Special Trade Contractors, Not Elsewhere Classified

At an interstate highway resurfacing project an employee working as a quality inspector was working on the right shoulder, within 6 feet of the edge line and was struck by a passenger car that veered onto the shoulder.

1761—Roofing, Siding, and Sheet Metal Work

An employee was operating a rough terrain forklift and was dumping shingles from a material basket which was attached to the forks. The employee had driven close to a dumpster and had dumped the shingles and noticed some shingle(s) still in the basket. The employee got out of the rough terrain forklift and walked to the area of the basket and was crushed between the forklift and the dumpster when the forklift rolled forward.

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Ladder does not extend 3 feet past the top edge.

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1611—Highway and Street Construction, Except Elevated Highways

An employee was in the process of milling a joint on a bridge on the interstate highway when he was struck by a passing vehicle. The employee was wearing a reflective vest, was working behind cones and traffic was merged down from 3 lanes to 1 lane.

1771—Concrete Work

An employee was working as a laborer installing forms for poured concrete walls and it was the employee's first day on the job. After lunch the employee was dizzy and fell backwards. The employee was provided water and was taken in a truck to the hospital. CPR was conducted enroute. Death may be related to heat stress.

1611—Highway and Street Construction, Except Elevated Highways

Three employees had the westbound lane of a US Highway shut down while they removed a guardrail post from the side of the roadway. One employee was holding a steel post puller that hung from a chain from the boom truck. The boom truck was erected between two high voltage wires and the boom made contact with the wires causing the employee holding on to the steel post puller to be electrocuted. The wires were about 15.3 feet over grade and the top of the boom was about 17.4 feet.

1711—Plumbing, Heating and Air-Conditioning

A general manager and a plumber were running a 475 foot 4 inch PVC lateral sewer line from a new home to the municipal sewer. The general manager operated a small excavator with a 2 foot bucket and made a trench ranging from 4 feet to 7 feet in depth. The plumber occupied the trench making connections and checking the angle of the lateral. Nine days prior a trenching machine had cut and backfilled a 4 to 6 inch wide trench for electrical service adjacent to this new work. As the work progressed to about the 200 foot point the trench was about 2 1/2 feet away from the previously disturbed/trenched electrical line and the trench was about 7 feet deep when a section of soil about 2 1/2 feet wide, 5 feet tall and about 33 inches long fell onto the plumber.

1771—Concrete Work

A laborer was helping to prepare and to pour a concrete patio when the employee showed signs of heat stress and then passed out. EMT's were called and the employee was in the hospital for 9 days before he died.

1531—Operative Builders

Two employees were moving an empty freezer out of a basement when they reached the top of the stairs the freezer became lodged in the doorway. As one employee worked to remove the door stop the employee on the stairs fell to the cement basement floor and sustained head injuries.

1794—Excavation Work

An employee was operating a front end loader and was clearing trees. The employee was driving down a steep embankment when he lost control and was thrown through the front windshield and then crushed under the left rear tire of the loader.

1611—Highway and Street Construction, Except Elevated Highways

An employee was operating the air compressor on a truck used for saw cutting seams in the roadway. At 3am a passenger vehicle entered the closed lanes of the construction area after making an illegal U-turn on the interstate highway. The vehicle then struck the employee.

1794—Excavation Work

Two employees were connecting new sanitary sewer lines in a new residential cul-de-sac. In a trench about 16 feet deep, 5 feet wide and 33 feet long with no protective equipment a section of soil about 10 feet by 10 feet by 3 feet collapsed onto the two workers. One employee was rescued.

1623—Water, Sewer, Pipeline, and Communications and Power Line Construction

Two employees were replacing natural gas risers at single family homes. They would hand dig a 3 foot deep hole, about 18 inches in diameter to access the 1 inch gas main. They would clamp a squeeze tool onto the 1 inch main

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and remove the riser. At some point the clamp was removed and gas flowed into the excavated hole. The deceased employee was found by the co-worker with his face in the hole and asphyxiated by the gas.

1761—Roofing, Siding, and Sheet Metal Work

Two employees were preparing to shingle a roof of a two story residence. One extension ladder was used to access the porch roof and a second extension ladder on the porch roof gave access to the house roof. One of the employees went to check the air compressor on the ground when he fell.

1611—Highway and Street Construction, Except Elevated Highways

An employee involved with pothole patching on the interstate highway was struck by a vehicle that entered the barricaded construction area and went around the attenuator truck.

1743—Terrazzo, Tile, Marble, and Mosaic Work

An employee involved with ceramic tile repair in a small bathroom was working with methylene chloride and was found unresponsive.



No fall protection
being used.

Top Ten Violations

Listed below are the “top ten” cited violations found during Federal OSHA construction inspections from October 2008 through September 2009.

<u>Rank</u>	<u>Standard</u>	<u>Hazard</u>
1.	29 CFR 1926.451	General Requirements of all Types of Scaffolds
2.	29 CFR 1926.501	Duty to Have Fall Protection
3.	29 CFR 1926.1053	Ladders
4.	29 CFR 1926.503	Fall Protection Training
5.	29 CFR 1910.1200	Chemical Hazard Communication
6.	29 CFR 1926.20	General Safety and Health Provisions
7.	29 CFR 1910.453	Aerial Lifts
8.	29 CFR 1926.100	Head Protection
9.	29 CFR 1926.454	Scaffold Training Requirements
10.	29 CFR 1926.651	Specific Excavation Requirements

This newsletter provides an overview of OSHA standards and does not alter or determine compliance responsibilities, which are described in the OSHA standards and the *Occupational Safety and Health Act*. Because interpretations and enforcement policy may change over time, the best sources for additional guidance on OSHA compliance requirements are current administrative interpretations and decisions by the Occupational Safety and Health Review Commission and the courts.



This employee fills a bucket with hot asphalt from the portable tank, carries it across the roof and pours the asphalt. He was exposed to asphalt fume at 0.86 mg/m^3 during a 224 minute sample. The 8 hour average exposure would be 0.40 mg/m^3 . The ACGIH TLV is 0.50 mg/m^3 .

Wisconsin Contact Information

Wisconsin OSHA Consultation Offices:

- Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, Madison, WI 53718
(608) 226-5240 (Health)
- Wisconsin State Laboratory of Hygiene
141 NW Barstow Street, Fourth Floor, Waukesha, Wisconsin 53188
(800) 947-0553 (Safety)

Wisconsin OSHA Enforcement Offices:

- Appleton Area Office, 1648 Tri Park Way, Appleton, Wisconsin 54914,
(920) 734-4521, (920) 734-2661 FAX
- Eau Claire Area Office, 1310 W. Clairemont Avenue, Eau Claire, Wisconsin 54701
(715) 832-9019, (715) 832-1147 FAX
- Madison Area Office, 4802 E. Broadway, Madison, Wisconsin 53716
(608) 441-5388, (608) 441-5400 FAX
- Milwaukee Area Office, 310 Building, Suite 1180, 310 West Wisconsin Avenue
Milwaukee, Wisconsin 53203
(414) 297-3315, (414) 297-4299 FAX

Do you have comments or ideas for articles?

E-mail them to the Wisconsin Construction Safety Newsletter at Zortman.Chris@dol.gov

Ideas for Articles for Upcoming Issues

Do you have any ideas for articles that you want to see or topics that you think are important?
Please let us know at the email address listed just above.