



**Wisconsin Contractors Institute**

**ASPECTS OF OSHA FOR  
RESIDENTIAL CONSTRUCTION  
PART 2**

**Course Number 962739**

**1 CE Hour**

**Wisconsin Contractors Institute**

**[www.wcittraining.com](http://www.wcittraining.com)**

**[wciceu@gmail.com](mailto:wciceu@gmail.com)**

**(262) 409-4282**

## OVERVIEW

This course aims to specifically examine the most common dangers in construction: falls, struck-by injuries, and electrocution.

### Course Objectives:

1. Understand the causes and risks of falls in construction, including the OSHA standards outlined in Subpart M, and the specific height requirements for fall protection.
2. Identify struck-by hazards and apply safety practices to prevent injuries from flying, falling, swinging, and rolling objects.
3. Describe electrocution risks and apply OSHA-compliant safety practices to prevent electrical accidents and ensure workplace safety.

## FALL PREVENTION

Falls are common accidents in construction. What can we do to understand and prevent falls?



Historically, falls are the leading cause of fatalities in construction, accounting for about one-third of all fatalities in the industry. For example, the Bureau of Labor Statistics reported that there were 291 fatal falls to a lower level in construction in 2013, out of 828 total fatalities. OSHA recognizes that incidents involving falls are generally complex events, frequently involving a variety of factors. Consequently, the standard for fall protection deals with both the human and equipment-related issues in protecting workers from fall hazards.

Subpart M lays out the requirements and criteria for fall protection in construction workplaces. Subpart M provisions do not apply, however, to workers inspecting, investigating, or assessing workplace conditions prior to the actual start of work or after all construction work has been completed. The provisions of Subpart M can be found in Title 29 Code of Federal Regulations (CFR) Subpart M - Fall Protection, 29 CFR 1926.500, 29 CFR 1926.501, 29 CFR 1926.502, and 29 CFR 1926.503.

Falls are among the most common causes of serious work related injuries and deaths. Employers must set up the work place to prevent employees from falling off of overhead platforms, elevated work stations or into holes in the floor and walls.

- **General Industry:** Fall protection is required at elevations of **four** feet.
- **Shipyards:** Fall protection is required at elevations of **five** feet.
- **Construction Industry:** Fall protection is required at elevations of **six** feet.
- **Long Shoring Operations:** Fall protection is required at elevations of **eight** feet.

Employers must set up the workplace to prevent employees from falling off of overhead platforms, elevated work stations or into holes in the floor and walls. OSHA requires that fall protection be provided at elevations of four feet in general industry workplaces, five feet in shipyards, six feet in the construction industry and eight feet in longshoring operations. OSHA mandates the use of fall protection when working over dangerous equipment and machinery, regardless of the fall distance. This requirement is designed to ensure worker safety by preventing accidents and injuries near hazardous machinery. Compliance with OSHA regulations is essential to maintain a safe working environment and protect employees from potential harm.

What are employers' responsibilities to provide fall protection? Initially, employers must assess the workplace to determine if walking or working surfaces have the necessary strength and structural integrity to safely support the workers. Once it is determined that the work surfaces will safely support the work activity, the employer must determine whether fall protection is required (using the requirements set forth in 29 CFR 1926.501) and, if so, select and provide workers with fall protection systems that comply with the criteria found in 29 CFR 1926.502.

When must employers provide Fall Protection? The 6-foot rule. Subpart M requires the use of fall protection when construction workers are working at heights of 6 feet or greater above a lower level. It applies at heights of less than 6 feet when working near dangerous equipment. For example, working over machinery with open drive belts, pulleys or gears or open vats of degreasing agents or acid.

To summarize, in order to prevent employees from being injured from falls, employers must:

- Guard every floor hole into which a worker can accidentally walk (using a railing and toe-board or a floor hole cover).
- Provide a guard rail and toe-board around every elevated open sided platform, floor or runway. Provide a guard rail and toe-board around every elevated open sided platform, floor or runway.
- Regardless of height, if a worker can fall into or onto dangerous machines or equipment (such as a vat of acid or a conveyor belt) employers must provide guardrails and toe-boards to prevent workers from falling and getting injured.
- Other means of fall protection that may be required on certain jobs include safety harness and line, safety nets, stair railings and hand rails.

### Fall Prevention: Ladders

Ladders are a common source of falls. What can we do to properly use ladders and prevent falls?



Use the right ladder for the job. For example, ensure the ladder is high enough for you to reach your work area without having to stand on the top rung. When using ladders to access another level, secure and extend the ladder at least 3 feet above the landing point to provide a safe handhold. The base of the ladder should be secured. Wear proper footwear (e.g., non-slip flat shoes). Place the ladder on stable and level ground. DO NOT place it on an uneven surface. Ensure that the ladder is fully extended before starting work.

To prevent hazards while using ladders, it is important to take several safety precautions. Use barriers, such as cones, or have a coworker act as a lookout to keep passersby away from ladders in use. Never work on the top rung of the ladder, and always maintain three points of contact, such as two hands and one foot or two feet and one hand, for stability. Avoid carrying tools or materials in your hands while climbing; instead, use a tool belt or hoist. Keep your weight centered between the ladder's side rails and avoid leaning away from the ladder. Additionally, do not use ladders near doorways unless the door is locked to prevent accidental opening. These practices help ensure safe ladder use and reduce the risk of accidents.

Never use a ladder if it is:

- Bent
- Missing a step
- Without a locking device or mechanism on the spread bars

## Fall Prevention: Stairways

Stairways can and will be used in specific residential construction projects. What are the requirements, and how can we prevent falls?



Stairways are a common walking surface on construction worksites as they are being built and then during the construction phase, as they are used to move materials from one level to another. Falls from stairs may lead to serious injuries or even death. Employers must take measures on their job sites to protect workers from slip, trip, and fall hazards on any walking/working surface, and workers have a responsibility to use stairways correctly, as intended.

Stairways typically consist of:

- 1) Landing Platform
- 2) Handrail or Stair Rail System
- 3) Steps (Risers)

Each flight of stairs having at least 3 treads and at least 4 risers must be equipped with stair rail systems and handrails. Except for a standard railing on all exposed sides, it must guard the entrance and stairway floor openings.

Stairways that are not intended to be permanent parts of a building under construction must have landings that are at least 30 inches deep and 22 inches wide at every 12 feet or less of vertical rise. These stairways must be installed at an angle of no less than 30 degrees and no more than 50 degrees from the horizontal. To ensure safety, variations in riser height or stair tread depth must not exceed

1/4 inch across the entire stairway system, including any foundation structure used as a stair tread. Additionally, doors and gates that open directly onto a stairway must have a platform extending at least 20 inches beyond the swing of the door or gate to provide adequate space and prevent accidents.

During construction, all stairways must meet specific safety requirements to ensure worker protection. Metal pan landings and treads must be securely fastened in place before being filled, and all stairway parts must be free of dangerous projections, such as protruding nails, to prevent injuries. Any slippery conditions on stairways must be promptly corrected to avoid accidents. Additionally, workers are prohibited from using spiral stairways that are not intended to be a permanent part of the structure. These measures are essential for maintaining a safe working environment.

Temporary stairways used during construction must meet specific safety requirements. Stairways with metal pan landings and treads must not be used unless the treads and landings have been filled with concrete or other materials, or temporarily filled with wood or similar materials. All treads and landings must be replaced if they become worn below the top edge of the pan. Skeleton metal frame structures and steps, where treads and landings will be installed later, must not be used unless they are fitted with secured temporary treads and landings. Temporary treads must be made of wood or other solid materials and must be installed to cover the full width and depth of the stair to ensure safety.

To prevent falls on stairs, it is important to follow key safety tips. Never carry a load with both hands while going up or down stairs, and always ensure your shoes or boots are properly tied before using any stairway. Set a good example for others by carefully walking up and down stairs while using the handrail. Report or clean up any spills or trash found on the stairs to maintain a safe environment. Additionally, report any instances of insufficient lighting on workplace stairways, whether indoors or outdoors. Avoid running on stairs and stay focused by refraining from distractions, such as trying to get a coworker's attention or looking at your cell phone. These practices help reduce the risk of falls and ensure stairway safety.

Fall safety training is a crucial part of workplace safety. This course has examined a few fall prevention areas, but there are many more. A comprehensive fall safety training program should cover all aspects of fall prevention, including hazard identification, fall protection equipment, and safe work practices.

## Fall Prevention – REVIEW QUESTIONS

1. **What percentage of construction fatalities are caused by falls?**
  - A. About one-third
  - B. About one-half
  - C. About one-fourth
  - D. About two-thirds
2. **At what height is fall protection required in the construction industry?**
  - A. 4 feet
  - B. 5 feet
  - C. 6 feet
  - D. 8 feet

3. **What is the purpose of Subpart M in OSHA regulations?**

- A. To outline fall protection requirements in construction workplaces
- B. To regulate the use of power tools
- C. To provide guidelines for electrical safety
- D. To establish rules for confined spaces

4. **Which of the following is NOT a responsibility of employers to prevent falls?**

- A. Guarding every floor hole
- B. Providing guardrails and toe-boards
- C. Allowing workers to decide if fall protection is necessary
- D. Assessing the strength and integrity of work surfaces

5. **What is the minimum height a ladder must extend above a landing point when accessing another level?**

- A. 1 foot
- B. 2 feet
- C. 3 feet
- D. 4 feet

6. **Which of the following is a key safety practice when using ladders?**

- A. Always work on the top rung for better reach
- B. Maintain three points of contact for stability
- C. Use ladders near doorways without locking the door
- D. Carry tools in your hands while climbing

7. **What must temporary stairways have to ensure safety during construction?**

- A. Spiral designs for easy access
- B. Landings at least 30 inches deep and 22 inches wide
- C. Treads made of lightweight plastic
- D. No handrails to reduce obstructions

8. **Which of the following is NOT a recommended practice for preventing falls on stairs?**

- A. Use the handrail while walking up or down
- B. Report or clean up spills on stairs
- C. Carry a load with both hands while using stairs
- D. Avoid distractions like using a cell phone

9. **What should employers do to protect workers from falling into dangerous machinery?**

- A. Provide guardrails and toe-boards
- B. Allow workers to use their judgment
- C. Install warning signs only
- D. Use temporary barriers without securing them

10. **What is a key component of a comprehensive fall safety training program?**

- A. Allowing workers to skip training if experienced
- B. Focusing only on ladder safety
- C. Avoiding the use of fall protection equipment
- D. Hazard identification and safe work practices

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## STRUCK-BY HAZARDS

What is a struck-by hazard? The construction site can have situations where objects can move, shift, or fall. A person working on a construction site must be attentive to decrease the likelihood of being struck by an object or hazard.



Struck-by injuries are produced by forcible contact or impact between the injured person and an object or piece of equipment. Having said that, it is important to point out that in construction, struck-by hazards can resemble caught-in or -between hazards. There is a distinction which is best explained by looking at the key factor in deciding between a “caught” event and a “struck” event, ask: *Was it the impact of the object alone that caused the injury?* When the impact alone creates the injury, the event is considered as “struck”. On the other hand, when the injury is caused by crushing injuries between objects, the event is considered as “caught”.

Categories of struck-by-hazards include:

- Struck-by flying object
- Struck-by falling object
- Struck-by swinging object
- Stuck-by rolling object

A **flying object hazard** arises whenever an object is thrown, hurled, or propelled through the air. This can happen when material separates from a tool or machine and strikes a worker. It also occurs when tools or equipment eject objects under power, such as a nail from a nail gun. Powder-actuated tools are especially hazardous because they use significant force to drive fasteners through materials like wood, concrete, and steel. Similarly, compressed air, often used to power tools and clean surfaces, can create flying object hazards. The primary risk is that fasteners or other projectiles discharged by these tools can cause severe injuries or even death if they strike a person.

Examples of accidents related to struck-by flying object hazards are:

- A worker was removing a frozen bolt from the track of a caterpillar front end loader and was struck-by a bolt that entered his forehead.
- A worker was killed when a blast of compressed air from a gas pipeline struck him. A compressor was started to fill the pipeline with compressed air in an effort to push out a “pig.” when the pipeline suddenly cleared, the employee was still in the way and was killed. The area should have been cleared before the compressor was started.

- The victim was in the process of using an 8-foot step ladder to gain height to nail a strap onto a residential home single story construction project. The victim used a nail gun with a 16d nail to affix the strap to the exterior wall. Using his right hand for the gun, he leaned over to the left and tried to place a nail into the strap. The nail ricocheted and hit him on the left side of his head just above the left ear. He fell to the ground and eventually passed out. Fellow workers transported him to the hospital. He died approximately two days later.

**Struck by falling objects** occurs when the source of injury is falling from an elevation to a lower level, including instances where the injured person is crushed, pinned, or caught under a falling object, other than collapsing material or structures, resulting from being struck by a falling object or equipment.



Struck by falling objects incidents can occur in various scenarios, often with severe consequences. For example, during the teardown of a transmission structure using a digger derrick, a pole broke and struck a worker on the head. In another case, a worker was injured when a load of wall panels fell off a truck and struck him. Similarly, while rebuilding a bridge washed out by floods, four workers were harmed when a crane boom cable broke, causing the boom to fall on them. Additionally, a worker cutting an 8,000-lb boiler into sections with a cutting torch faced a critical incident when the section being cut fell, flipping the remaining 5,000-lb section onto him. These examples highlight the importance of stringent safety measures in preventing such accidents.

A **struck by swinging object** incident occurs when a worker is injured by an object that is not free-standing but is attached or held, often moving in a hinge-like or swinging motion. These incidents can arise from various causes, such as materials being lifted mechanically, which may swing, twist, or turn unexpectedly. Workers can also be caught off guard by surprise impacts from swinging loads, especially in windy conditions that exacerbate the hazard. Additionally, slipping loads from riggings pose a significant risk, potentially striking workers or causing them to fall to another level.



Struck by swinging object incidents can have devastating outcomes, as illustrated by these examples. In one case, a worker operating within the swing radius of a barge-mounted crane during dredging operations was struck and killed. In another incident, two workers were setting up a ground slab for reinforcing steel placement using a truck crane positioned 30 feet above street level. The landing area

exceeded the crane's radius limit by approximately 40 feet, leading to a catastrophic failure when the crane's right pennant line broke. This caused the boom to collapse, striking one worker on the head and resulting in a fatality. These scenarios underscore the critical need for proper safety protocols and awareness to mitigate the dangers of swinging objects in the workplace.

**Struck-by rolling object** is defined as an object which is rolling, moving, or sliding on the same level at which the worker is located. Includes instances in which the worker is struck or run over by a moving vehicle without being caught under it or instances in which the worker is struck-by a sliding object or equipment on the same level. Struck-by accidents can result in fatalities, so it's extremely important to reduce potential risk on the job site.

Struck-by rolling object accidents are a significant workplace hazard, often leading to severe or fatal injuries. For instance, a worker walking along a track at an airport was struck by an unmanned rail car. In another case, a security guard was fatally injured after being struck and dragged by a tractor-trailer. Similarly, a worker loading and unloading freight suffered fatal injuries when hit by a moving semi-truck. Other incidents include a worker performing repairs on an impact attenuator and a flagger directing traffic, both of whom were struck by trucks. Additionally, a ground crew member working with a mobile under-hung bridge crane was fatally injured after walking too close to the crane's wheel. In a particularly tragic incident, a worker setting traffic cones at a paving project was struck by an automobile, thrown into another lane, and hit by a second vehicle, which dragged him 141 feet. These examples emphasize the critical need for heightened safety measures and awareness in environments with rolling equipment and vehicles.

Preventing struck-by hazards requires vigilance and adherence to key safety practices. Workers should always stay alert to the location of heavy equipment, whether it is in operation or stationary, and avoid working under suspended or unbalanced loads. Visibility is crucial. Workers must confirm and receive acknowledgment from equipment operators to ensure they are seen. Additionally, staying outside the swing radius of cranes and backhoes is essential to avoid dangerous zones. Safe driving practices are equally important, with equipment and vehicles operated only on properly constructed and maintained grades or roadways. Before using dumping or lifting devices, ensure all workers and personnel are clear of the area. Equipment safety is critical—bulldozer and scraper blades, end-loader buckets, and dump bodies should be lowered or blocked when not in use, with all controls left in the neutral position. Haulage vehicles loaded by cranes, power shovels, or loaders must be equipped with a cab shield or canopy to protect drivers from falling materials. Additionally, vehicles should never exceed their rated load or lift capacity, and personnel should only be transported if there is a designated safe place to ride. Workers should always wear seat belts when provided and conduct pre-shift checks to confirm that all parts and accessories are functioning safely. When operating a vehicle in reverse gear, it is crucial to avoid reversing with an obstructed rear view unless the vehicle is equipped with an audible reverse alarm or another worker signals that it is safe to proceed. Additionally, parking safety is essential. Set parking brakes when vehicles and equipment are parked, and use wheel chocks if parked on an incline. All vehicles must be equipped with adequate braking systems and other essential safety devices. To manage traffic effectively, traffic signs, barricades, or flaggers should be used to ensure the safety of both workers and the public. Worker visibility is also paramount—high-visibility clothing, such as red or orange vests, is required at all times. For night work, this clothing must include reflective material to enhance visibility in low-light conditions. These measures play a vital role in preventing accidents and maintaining a secure work environment.

## Struck-By Hazards – REVIEW QUESTIONS

11. **What is the key factor in distinguishing a “struck-by” hazard from a “caught-in or -between” hazard?**
- The size of the object involved
  - Whether the injury was caused by impact alone
  - The speed of the object
  - Whether the object was stationary
12. **What is a common cause of struck-by flying object hazards?**
- Objects falling from a height
  - Vehicles rolling on the same level
  - Swinging loads from cranes
  - Materials ejected from tools or machines
13. **What safety measure can help prevent struck-by falling object incidents?**
- Wearing high-visibility clothing
  - Staying outside the swing radius of cranes
  - Avoiding working under suspended or unbalanced loads
  - Using compressed air to clean surfaces
14. **What is a common cause of struck-by swinging object incidents?**
- Improperly secured loads that swing unexpectedly
  - Objects falling from scaffolding
  - Workers walking in front of moving vehicles
  - Tools ejecting fasteners under power
15. **Which of the following is an example of a struck-by rolling object hazard?**
- A worker hit by a nail ejected from a nail gun
  - A worker struck by a falling crane boom
  - A worker run over by a moving semi-truck
  - A worker injured by a swinging load
16. **What is a critical safety practice to prevent struck-by hazards?**
- Always work under suspended loads to save time
  - Confirm and receive acknowledgment from equipment operators to ensure visibility
  - Use tools with mushroomed heads for better impact
  - Avoid wearing high-visibility clothing
17. **What should workers do when operating vehicles in reverse gear?**
- Reverse without checking the rear view
  - Use an audible reverse alarm or have a worker signal it is safe to proceed
  - Avoid using parking brakes when parked on an incline
  - Exceed the vehicle’s rated load capacity
18. **What type of clothing is required to enhance worker visibility on job sites?**
- High-visibility clothing, such as red or orange vests
  - Dark-colored clothing to blend in
  - Loose-fitting clothing for comfort
  - Reflective clothing only during the day

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## ELECTROCUTION HAZARDS

In this section of the course, we will answer the following:

- What are electrocutions?
- How do electrocutions happen on the jobsite?
- What can we do to prevent this type of accident?



Electrocution hazards pose a significant risk on job sites, occurring when a person is exposed to a lethal amount of electrical energy. Common electrical hazards include faulty wiring, contact with live overhead power lines, improper use of extension cords, and handling damaged equipment or power tools. These dangers highlight the critical need for proper electrical safety measures and regular equipment inspections to protect workers from potentially fatal incidents.

An electrical hazard can be defined as a serious workplace hazard that exposes workers to the following:

- **B**urns
- **E**lectrocution
- **S**hock
- **A**rc Flash/Arc Blast
- **F**ire
- **E**xplosions

This creates the useful OSHA acronym, “Be Safe”.

A **burn** is the most common shock-related injury. Burns from electricity are one of three types:

- 1) Electrical
- 2) Arc/Flash
- 3) Thermal Contact

“E” stands for **electrocution**. Electrocution is fatal and occurs when a human is exposed to a lethal amount of electrical energy.

“S” is for **shock**. Shock results when the body becomes part of the electrical circuit. A current enters the body at one point and leaves at another. Electrical shock is defined as a reflex response to the passage of electric current through the body.

“A” stands for **arc flash/blast**. An arc flash is the sudden release of electrical energy through the air when a high-voltage gap exists and there is a breakdown between conductors. An arc flash gives off thermal radiation (heat) and bright, intense light that can cause burns. Temperatures have been recorded as high as 35,000°F. High-voltage arcs can also produce considerable pressure waves by rapidly heating the air and creating a blast.

“F” is for **fire**. Most electrical distribution fires result from problems with “fixed wiring” such as faulty electrical outlets and old wiring. Problems with cords (such as extension and appliance cords), plugs, receptacles, and switches also cause electrical fires.

“E” stands for **explosions**. An explosion can occur when electricity ignites an explosive mixture of material in the air. Electricity is the source of these hazards.

Examples of electrocution incidents highlight the severe risks associated with electrical hazards on job sites. In one case, a worker moving an aluminum ladder came into contact with overhead power lines and was electrocuted. Similarly, another worker raising the mast on a drilling truck was fatally electrocuted by high-voltage lines. In a separate incident, a worker changing a ballast while on a fiberglass step ladder fell to the concrete floor and was electrocuted. Additionally, a worker connecting a replacement electrical service box to the service drop suffered fatal electrocution. These tragic examples underscore the importance of strict adherence to electrical safety protocols to prevent such incidents.

Preventing electrocution hazards requires strict adherence to general safety practices. Maintaining a safe working distance from power lines is essential to avoid accidental contact during equipment operation or activities. Coordination with the utility company is critical to ensure power lines are either de-energized and visibly grounded or equipped with insulated sleeves for added protection. Installing flagged warning lines to mark horizontal and vertical clearance distances further enhances safety by providing clear visual cues. Additionally, using nonconductive tools and materials is a vital precaution to minimize the risk of electrical hazards.



The following list includes electronic tool safety tips for preventing electrocution:

- Never carry a tool by the cord
- Never yank the cord to disconnect it
- Keep cords away from heat, oil, and sharp edges
- Disconnect when not in use and when changing accessories such as blades and bits
- Use gloves and appropriate footwear
- Use double-insulated tools

- Avoid accidental starting. Do not hold fingers on the switch button while carrying a plugged-in tool
- Store in dry place when not using
- Don't use in wet/damp environments
- Keep working areas well lit
- Ensure that cords do not cause a tripping hazard
- Remove damaged tools from use
- Use double-insulated tools

Misusing equipment can lead to serious safety hazards, making proper practices essential. Multi-receptacle boxes should always be securely mounted and connected with a power cord, avoiding placement on the floor. Extension cords must be appropriately manufactured—fabricating them with ROMEX wire is unsafe. Equipment designed for dry, indoor use should never be used outdoors, and ungrounded two-prong adapter plugs should not be attached to three-prong cords or tools. Circuit breakers and fuses must have the correct rating to provide proper over-current protection and trip when necessary. Modifying cords or tools, such as removing ground prongs, compromises safety and should be avoided. Additionally, cords and tools should be regularly inspected for wear, such as worn insulation or exposed wires, and replaced if damaged. Following these guidelines ensures safer equipment use and reduces the risk of accidents.

Lockout/tagout procedures are critical safety measures designed to protect workers from injuries when working on or near electrical circuits and equipment. These procedures ensure that machinery and systems are properly shut down and isolated, preventing accidental contact with moving parts such as blades, gears, and shafts. Additionally, lockout/tagout safeguards workers by preventing the unexpected release of hazardous substances, including gases, fluids, or solid matter, in areas where personnel are present. By following these protocols, workplaces can significantly reduce the risk of accidents and create a safer environment for employees.

Protecting against electrocution requires a comprehensive and methodical approach to managing electrical energy. Begin by identifying all energy sources connected to the equipment or circuits, including backup sources like generators and batteries, which must be disabled. Locate and clearly identify all shut-offs for each energy source, and notify personnel that equipment and circuitry must be shut off, locked out, and tagged out—simply turning off a switch is not sufficient. Stored energy, such as in capacitors, must be safely depleted through methods like bleeding, blocking, or grounding. Turn off and lock the switch gear in the OFF position, ensuring each worker applies their lock and keeps the key. Equipment and circuitry must then be tested by a qualified person to confirm they are de-energized. Apply a lock or tag to alert others that the energy source or equipment has been secured. Before re-energizing, ensure all workers are safe and accounted for, with only a qualified person determining when it is safe to restore power. These steps are essential for minimizing electrocution risks and maintaining a safe work environment.

## Electrocution Hazards – REVIEW QUESTIONS

19. **What is the definition of electrocution?**
- A. A minor electrical shock
  - B. A burn caused by electrical equipment
  - C. A fire caused by faulty wiring
  - D. A fatal exposure to electrical energy
20. **Which of the following is NOT a common electrical hazard on job sites?**
- A. Faulty wiring
  - B. Contact with live overhead power lines
  - C. Properly grounded tools
  - D. Handling damaged equipment
21. **What does the OSHA acronym “Be Safe” stand for?**
- A. Burns, Electrocution, Shock, Arc Flash, Fire, Explosions
  - B. Burns, Electricity, Safety, Arc Flash, Fire, Equipment
  - C. Be Safe Around Faulty Equipment
  - D. Burns, Electrocution, Safety, Fire, Explosions
22. **What is an arc flash?**
- A. A minor electrical spark
  - B. The sudden release of electrical energy through the air due to a high-voltage gap
  - C. A fire caused by faulty wiring
  - D. A tool malfunction
23. **Which of the following is a key safety practice to prevent electrocution?**
- A. Using nonconductive tools and materials
  - B. Carrying tools by their cords
  - C. Using ungrounded two-prong adapter plugs
  - D. Modifying cords to remove ground prongs
24. **What should you do with damaged tools?**
- A. Continue using them if they still work
  - B. Repair them with tape
  - C. Remove them from use immediately
  - D. Use them only in dry environments
25. **What is the purpose of lockout/tagout procedures?**
- A. To ensure machinery and systems are properly shut down and isolated
  - B. To increase the speed of equipment operation
  - C. To allow workers to bypass safety protocols
  - D. To reduce the need for regular inspections
26. **What is a critical step in protecting against electrocution?**
- A. Turning off the switch without locking it
  - B. Testing equipment to confirm it is de-energized
  - C. Using tools with exposed wires
  - D. Allowing untrained workers to handle electrical circuits
27. **What is the maximum temperature recorded during an arc flash?**
- A. 10,000°F
  - B. 20,000°F
  - C. 35,000°F
  - D. 50,000°F

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## CONCLUSION

Congress established the Occupational Safety and Health Administration (OSHA) to ensure that workers across the country have safe and healthful working conditions. This agency plays a critical role in protecting employees by setting and enforcing safety standards, as well as providing training, outreach, and education. Residential construction sites, in particular, are high-risk environments where accidents such as falls, struck-by incidents, and electrocutions are unfortunately common. These types of incidents result in thousands of injuries and fatalities each year, underscoring the importance of strict adherence to safety protocols.

OSHA has the authority to inspect worksites to ensure compliance with its regulations, helping to identify and address potential hazards before they lead to accidents. However, workplace safety is not solely the responsibility of OSHA. It is a shared duty between employers and employees. Employers are required to provide a safe working environment, proper training, and the necessary protective equipment, while employees must follow safety guidelines, report hazards, and use equipment responsibly.

By following OSHA requirements and general safety practices, the risk of workplace injuries and fatalities can be significantly reduced. Simple measures, such as using fall protection systems, maintaining clear communication, and ensuring proper equipment maintenance, can make a substantial difference. It is essential to remember that creating a safe work environment is a collective effort. Everyone on the job site, from management to workers, has a role to play in fostering a culture of safety and accountability. Together, these efforts can help prevent accidents, save lives, and ensure that every worker returns home safely at the end of the day.

## Conclusion – REVIEW QUESTIONS

- 28. What is the primary purpose of OSHA?**
- A. To provide financial assistance to workers
  - B. To ensure safe and healthful working conditions for employees
  - C. To reduce the cost of workplace equipment
  - D. To inspect only residential construction sites
- 29. Who is responsible for maintaining workplace safety?**
- A. Only OSHA
  - B. Only employers
  - C. Both employers and employees
  - D. Only management
- 30. Which of the following is a simple measure to reduce workplace injuries and fatalities?**
- A. Ignoring minor hazards
  - B. Using fall protection systems
  - C. Relying solely on OSHA inspections
  - D. Avoiding communication on the job site
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