ESSENTIAL 29: Fall Protection – Construction

Key Takeaways:

– Understanding the reasons for using fall protection equipment and training on that use are required in the construction industry
– Recognizing the requirements for equipment used in work positioning, fall restraint, and fall arrest systems
– Learning the requirements for proper use of work positioning, fall protection, fall restraint, and fall arrest systems
– Realizing the hazards posed by falling six feet (1.85 m) or more, both with and without a personal fall arrest system
– Learning the components of a personal fall arrest system and how they work together to arrest a fall
– Comprehending the steps for properly inspecting and donning a full-body harness
– Learning the criteria for properly attaching the connecting device to an anchorage connector, and a vertical or horizontal lifeline

Course Description

Falls happen too often to ignore, even to seasoned professionals in the construction industry. There is high potential for fatal injuries caused by falls from scaffolding, ladders, beams, and residential frames. When the right safety precautions are taken, many falls are preventable, so why do falls occur so frequently? Everyone, usually to be faster, sometimes cut corners and work without fall protection equipment to accomplish little tasks, removing the systems when they present an inconvenience, or dispensing with them altogether. It is because of this that risk is invited and bad accidents can happen.

One of the major sources of injury to the American workforce is falls. Falls are part of the “Fatal Four” hazards, along with electrical, caught-in, and struck-by hazards, which account for the majority of the injuries and fatalities in construction. The single-greatest source of injury, accounting for thirty-eight percent of all construction fatalities, is falls from heights. Considering recent statistics, falls from heights caused 348 fatalities in construction and utilities-related accidents, and 10,150 non-fatal injuries. Fall-related violations have been found to be at least three of the top ten most frequently cited construction violations.

When there are serious fall hazards, and protection by other means such as guardrails or nets are not used, the Occupational Safety & Health Administration (OSHA) requires employers create a personal fall arrest program. Typical programs will identify common hazards and offer solutions for mitigating them, often by instructing the use

of fall protection systems, outlining situations where fall arrest devices are appropriate for use. It is a dangerous idea to bypassing personal fall arrest systems, regardless of how long these systems may take to deploy.

Realizing and correcting unsafe conditions does more than creating a safer work environment. If you want to avoid a citation from OSHA, do you best to keep your jobsite free of fall hazards.

Typical Construction Fall Hazards – Leading edges on a constructed building or around open excavations; – Scaffold systems which lack proper guardrail protection; – Improperly guarded, open holes in floors; – Fall protection is required across nearly every industry activity by law. Although, the requirements vary depending on the situation, even in the construction industry. Contractors need to address fall exposures of six feet for most work. Fall protection is needed while working: – At self-supporting scaffolding heights of 10 feet (3.05 m) or greater – On a steel erection 15 to 30 feet (4.6 to 9.1 m) high – Upon nearly all other types of construction that a fall hazard of 6 feet (1.83 m) or more exists In certain circumstances, fall protection is not required. Examples include self-supporting step ladders or extension ladders, erecting or dismantling scaffold, performing certain steel erection work operations, or working from a scissor lift (with integral fall protection in the form of a guardrail). Fall prevention barriers reduce employee exposure to fall hazards. An example of which, guardrail systems, may be used extensively throughout the work site. There may be permanent guardrails on stairways, landings, work platforms, and equipment access platforms. On the other hand, temporary guardrails may be seen on scaffolds and at construction sites, excavation sites, and other areas where a temporary fall hazard exists. Warning Line Systems – Implemented at construction sites and excavation sites when there is limited exposure to fall hazards; – Are made up of ropes, wires, or chains, and supporting stanchions; – Need to be flagged no less than every six feet with high-visibility material; – Signage can be used to indicating controlled access during construction; Perimeter Safety Cables Multi-story structures should have perimeter safety cables installed at the final interior (around shaft openings) and exterior perimeter of each floor prevent you from being exposed to fall hazards. Safety Monitors – Use competent personnel to keep others away from a fall hazard; – They must not perform any other duties; – Only utilize when all other means of fall protection are not possible; – Circumstances for needing warning monitors must be specifically described in your company’s fall protection requirements. Fall Restraint Systems A fall restraint system holds an employee to prevent them from falling to a lower level, as suggested by the name. These systems can consist of anchorages, connectors, body belts/harnesses, lanyards, lifelines and rope grabs. Every anchorage points used must be able to hold four times the intended load, and must be ridged so there is no vertical free fall if the employee slips. Fall Arrest Systems To minimize injury from a fall, use a fall arrest system. It is fundamental to use fall arrest equipment correctly to prevent injury as much as possible. Some examples of equipment include body support devices (harnesses), lanyards and anchorages. Lanyards Lanyards hoist the body support device and must stretch when loaded. By stretching, impact speed and arresting force are decelerated when the wearer falls. Common lanyard harnesses are capable of holding a total 310 pounds. Employers should choose the proper length lanyard for the job; too long and it may not prevent the fallen individual from striking surfaces or objects below them. As for the lanyard’s snap-hook device, only self-enclosing and self-locking types should be used, and two lanyards should never be connected together. Anchorages Personal fall arrest equipment must be attached to an anchorage point that can ultimately support the equipment and the individual if they fall. OSHA guidelines enforce that any anchorage used for attachment of personal fall arrest equipment must be independent of any anchorage being used to support or suspend platforms. Examples of anchorages include but are not limited to cross-arm straps for wrapping around approved structural members, driven anchorage points that affix temporarily or permanently to the structure, concrete anchors that are drilled into the concrete floors or walls, and bar anchors that span an opening.