

Purpose

This section establishes guidelines on the means, methods, and safe practices for fall prevention and protection. Whenever an employee will be engaged in work at an elevation of four feet (4') or more from the next lower adjacent surface, guardrails, railings or other means of fall prevention shall be supplied. Other means of fall prevention including work positioning systems comprised of restraint lanyards and full body harnesses may also be used. Shock absorbing lanyards are not in use on campus.

Definitions

1. Anchorage - a secure point of attachment for lifelines, lanyards, or deceleration devices.
2. Body Harness - straps that may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with means for attaching it to other components of a personal fall arrest system.
3. Deceleration Device - any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.
4. Deceleration Distance - the additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured as the distance between the location of an employee's body belt or body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.
5. Equivalent - alternative designs, materials, or methods to protect against a hazard that the employer can demonstrate will provide an equal or greater degree of safety for employees than the methods, materials, or designs specified in the standard.
6. Free Fall - the act of falling before a personal fall arrest system begins to apply force to arrest the fall.
7. Guardrail System - a barrier erected to prevent employees from falling to lower levels.

Fall Protection

February 2022

8. Hole - a gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, roof, or other walking/working surface.
9. Infeasible - that it is impossible to perform the construction work using a conventional fall protection system (i.e., guardrail system, safety net system, or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection.
10. Lanyard - a flexible line of rope, wire rope, or strap that generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.
11. Lifeline - a component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.
12. Opening - a gap or void 30 inches (76 cm), or more, high and 18 inches (48 cm), or more, wide, in a wall or partition, through which employees can fall to a lower level.
13. Personal Fall Arrest - a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, and a body belt or body harness, and may include a lanyard, deceleration device, lifeline, or suitable combinations of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.
14. Point of Attachment - The location where the lifeline is secured.
15. Snaphook - a connector comprised of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.
16. Toeboard - a low protective barrier that can prevent the fall of materials and equipment to lower levels and can provide protection from falls for personnel.
17. Unprotected sides and edges - any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or guardrail system at least 39 inches (1.0 m) high.
18. Walking/Working surface - any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges,

Fall Protection

February 2022

runways, formwork and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

19. Work Area - that portion of a walking/working surface where job duties are being performed.

References

- 29 CFR 1910 Subpart D Walking/Working Surfaces
29 CFR 1926 Subpart M Fall Protection

Procedures

General Requirements:

1. Fall protection shall be provided for all employees performing work on surfaces elevated four feet (4') or more above the next lower adjacent surface.
2. Fall protection can be accomplished by one, or more, of the following conventional fall protection methods:
 - a. Guardrails:
 - i. Top edge height of top rails of a guardrail system shall be 42 inches above the walking/working level.
 - ii. When employees are using stilts, increase the top edge height of the top rail to an amount equal to the height of the stilts.
 - iii. Install midrails at a height midway between the top edge of the guardrail system and the walking/working level.
 - iv. When screens and mesh are used, they must extend from the top rail to the walking/working level along the entire opening.
 - v. Intermediate members such as balusters used between posts and other horizontal structural members, shall be not more than 19 inches apart.

Fall Protection

February 2022

- vi. Midrails, screens, mesh, intermediate vertical members, and solid panels shall be capable of withstanding, without failure, a force of at least 150 pounds applied in any downward and outward direction.
 - vii. Guardrail systems shall have smooth surfaces to prevent punctures, lacerations, and snagging of clothing.
 - viii. The ends of top rails and midrails shall not overhang the terminal post where such overhang constitutes a projection hazard.
 - ix. When guardrail systems are used at holes, build them on all unprotected sides of the hole.
 - x. Build guardrail systems used on ramps and runways on each unprotected side or edge.
 - xi. Where a ladder or other access is provided, the guardrail shall be removable or have a gate installed.
 - xii. When guardrail systems are constructed of 2" x 4" materials, they will have upright posts every 8 feet. Toeboards made of 2" x 4" stock will also be provided.
- b. Personal Fall Arrest System (PFAS)
- i. Body belts are not acceptable as part of a PFAS.
 - ii. Employees shall be trained in the proper use of a PFAS and its components.
 - iii. Inspect body harnesses and components before each use and remove from service if found to be defective.
 - iv. A lanyard not more than six feet (6') in length or retractable type lanyard shall connect body harnesses to anchor points.
 - v. Attach lifelines only to a certified anchor point capable of supporting 5,000 pounds per person or a manufacturer supplied, certified anchor point.
 - vi. Use only locking type snap hooks.

Fall Protection

February 2022

- vii. D-rings and snaps hooks shall have a minimum tensile strength of 5,000 pounds. Lanyards and vertical lifelines must have a minimum breaking strength of 5,000 pounds.
 - viii. Ropes and straps used in lanyards, lifelines, and strength components of body harnesses must be made from synthetic fibers.
 - ix. Anchorages for attachments of PFAS equipment must be independent of any anchorage being used to support or suspend platforms and be capable of supporting at least 5,000 pounds per employee attached.
 - x. Protect lifelines from being cut or abraded.
 - xi. When using a PFAS, adjust the lanyard as to not allow the employee to freefall more than four feet (4').
- c. Covers
- i. All covers must support, without failure, at least two times the maximum intended weight that might be imposed on the cover.
 - ii. All covers shall be secured from accidental displacement by wind and other employees.
 - iii. All covers shall be marked or color-coded to warn of the hazards of falling through holes if removed. Mark covers using the words "COVER" or "HOLE".
3. When exposed to falling objects, in addition to wearing hard hats, each employee shall be provided with additional protection from falling hand tools, debris, and other small objects by one, or more, of the following:
- a. The area below the working surface/location which objects can fall will be barricaded, and employees will not be permitted to enter the hazard area;
 - b. A four-inch (4") toeboard will be erected along the edge of the platforms when platforms are more than four feet (4') high;
 - c. Where tools, materials, or equipment are piled to a height higher than the top edge of the toeboard, paneling or screening shall extend from the toeboard or platform to the top of the guardrail;

Fall Protection

February 2022

- d. A guardrail system will be installed with openings small enough, no larger than one inch (1”), to prevent passage of potential falling objects;
- e. A canopy structure, debris net or catch platform strong enough to withstand the impact forces of the potential falling objects shall be erected over the employees below.

Training

Carroll Community College will train employees in the use and inspection of fall protection systems applicable to their job duties. This training shall be completed before an employee performs related tasks and shall be conducted by a person competent in the subject matter. The training will be refreshed at intervals stipulated by the current and applicable OSHA standard.

All third-party contractors are responsible to ensure their employees are trained, certified, and/or licensed as required by the industry standards and all applicable OSHA standards related to the scope of work.

Record Keeping and Certification

1. Safety Training records for Carroll Community College employees shall include the following:
 - a. Names of training attendees.
 - b. The dates of the training sessions.
 - c. The contents or a summary of the training sessions.
 - d. The name(s) and title(s) of person(s) conducting the training sessions.
2. Safety Training records shall be maintained for a length of time in accordance with industry and OSHA standards.
3. All third-party contractors are responsible to maintain safety training records for their employees in accordance with industry and OSHA standards.