

Training

# The ABCs of Fall Protection

Brought To You by Lydia Baugh at ISEA | Feb 02, 2018

In almost every industry, there are areas where workers are subjected to fall hazards. When selecting fall protection equipment, three components make up a complete fall protection system. These are the ABCs of fall protection:

- Anchorage
- Body support
- Means of Connection

Each one must be in place and properly used to provide maximum worker protection.

While each of these components is vital to worker safety, the connecting device is the critical link in assembling a safe fall protection system since it bears the greatest force during a fall. Careful consideration must be given to the selection, materials, construction and inspection/maintenance of fall protection equipment before, during and after a connecting device has been selected.

## Anchorage

An anchorage, as defined by OSHA, is a secure point of attachment for lifelines, lanyards or deceleration devices. ANSI Z359 defines anchorage as a fixed structural component such as a beam, girder, column or floor that can support the forces exerted in arresting a fall, and introduces the term "anchorage connector" to refer to the component by which the connecting device is coupled to the anchorage. It may be a beam anchor, cross-arm strap, D-bolt, hook anchor, tripod, davit or other secure device that serves as a point of attachment for lifelines, lanyards or deceleration devices.

Anchorage and anchorage connectors must be independent and capable of supporting 5,000 lb per employee attached, or designed, installed and used under the supervision of a qualified person as part of a complete personal fall arrest system which maintains a safety factor of at least two. They must also be located high enough for a worker to avoid contact with a lower level should a fall occur.

## Body Support

A body support, or body wear, is the component that is worn on or around the torso. Body belts and full body harnesses are the two most common body supports.

- **Body Belt.** A body belt is a belt that circles the waist and is used for worker positioning and fall prevention. A body belt may be supplied with D-rings on the hips and/or middle of the back. A body belt must NEVER be used for personal fall arrest.
- **Full Body Harness.** A full body harness is a body support device that distributes fall arrest forces across the shoulders, thighs and pelvis. Full body harnesses have a center back fall arrest attachment for connection to the fall arrest connecting device and may have other D-rings for use in worker positioning, fall prevention, suspension or ladder climbing.
  - The only form of body wear acceptable for fall arrest is the full body harness.
  - Full body harnesses should be selected based on work to be performed and the work environment.

- Front D-rings on full body harnesses are used only for ladder-type fall arrestors, work positioning, travel restraint or rescue. Side D-rings are for positioning only.

## Connection

The connecting subsystem is the critical link which joins the body wear to the anchorage/anchorage connector. It can be an energy-absorbing lanyard, fall limiter, self-retracting lanyard, rope grab, or retrieval system. Connecting means will vary depending on whether the worker is equipped for personal fall arrest or work positioning and travel restriction.

- **Connecting Means for Personal Fall Arrest.** The connecting means for personal fall arrest is often a lanyard equipped with an energy-absorbing element to reduce the energy transmitted to the user's body in the event of a fall. Self-retracting lifelines or fall limiters reduce free-fall distance as well as reducing energy loads from a fall.
- **Connecting Means for Positioning and Travel Restriction.** The connecting means for positioning and travel restriction is often a simple lanyard, constructed of rope, web or wire rope. These may also include specialized positioning assemblies for rebar work, constructed of chain or web. All positioning devices are intended to reduce the potential for free fall to a distance of less than two feet. Restraint lanyards are specified in length to prevent the user from reaching a fall hazard zone.

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