

A PERSONAL FALL ARREST SYSTEM HAS 3 PARTS: ANCHORAGE, BODY WEAR, AND CONNECTOR.

A - ANCHORAGE

ANCHORAGE CONNECTORS PROVIDE A SECURE POINT OF ATTACHMENT FOR THE FALL ARREST SYSTEM.

Anchorage connectors are the starting point of any fall arrest system. They can be temporary or permanent, and vary in design to suit the type of anchor surface at hand.

Anchorage connectors must be capable of supporting 5,000 lbs per worker attached for fall arrest applications, or two times the maximum arrest force.

Anchorage connectors must be compatible with the snap hook or carabiner on the connecting device. They must be designed not to bend, deform, or defect if a fall occurs.

TYPES OF ANCHORAGE CONNECTORS

- **Tie-off adapters:** tie-offs are choked to the anchorage structure. Made of polyester web, Kevlar, or steel cable.
- **Steel anchors:** connect to I-beams and other steel structures. Can be fixed anchors or sliding trolleys for work mobility.
- **Concrete anchors:** permanent anchors designed for attachment to concrete ceilings, floors, or walls.
- **Roof anchors:** can be fixed or portable, and come in a variety of designs for flat or sloped roofs. Designed to attach to the roof without long-term damage.
- **Horizontal lifelines:** permanent systems that provide an extended, sliding anchor point. Several workers can connect to one lifeline and enjoy freedom of movement while working.
- **Specialty anchorage:** anchorage connectors exist for any out of the box application. Special anchors include door jamb anchors and davit posts for enclosed space protection.

B - BODY WEAR

FULL BODY HARNESES CONNECT THE WORKER TO THE FALL ARREST SYSTEM.

Full body harnesses are the only type of body wear permitted for fall arrest systems. While body belts may be used for work positioning, if fall protection is required a full body harness must be used.

Body harnesses consist of a polyester web body, buckles, and D-rings. Buckles can be pass-thru, snap connect, or tongue buckle (like a belt).

The body of the harness works to distribute shock forces throughout the body over many webbing components.

While D-rings may be dorsal (located at the top of the back), sternal (on the chest), side, or shoulder; dorsal D-rings are the only attachment point permitted for fall arrest applications.

If there is a risk of exposure to arc flashes or fire, an FR rated harness should be used.

The maximum arresting force allowed by OSHA for use with a full body harness is 1,800 lbs.

INSPECT YOUR PPE REGULARLY

Always handle and store harnesses and lanyards carefully to reduce wear and damage factors.

PPE must be inspected regularly to prevent unexpected failure. Before each use, look for any signs of wear or damage, including cuts, abrasions, deformed hardware, or exposed fall indicators.



Any PPE used during a fall must be immediately removed from service.



C - CONNECTOR

CONNECTORS CONNECT THE BODY WEAR TO THE ANCHORAGE SYSTEM.

The device that connects anchorage to body wear is the most crucial part of a fall arrest system.

A worker is subject to a great amount of impact force at the moment a fall is arrested. It's up to the connector to absorb these forces so they do not injure the worker.

Connecting devices must absorb the shock forces of fall arrest to under 900 lbs (ANSI standard) or 1,800 lbs (OSHA standard.)

The connector can attach to the harness with a variety of hooks, including snap connectors, rebar hooks, and caribeners.

TYPES OF CONNECTORS

- **Non-shock absorbing (positioning) lanyard:** used for restraint applications to prevent workers from reaching hazardous areas. Cannot be used for fall protection.
- **Shock absorbing lanyard:** designed for fall arrest for free falls of 6' or less.
- **Self retracting lifeline (SRL):** SRL's automatically retract excess line into a housing device and lock under sudden force (much like a seatbelt) to limit a fall. Type A SRLs have a maximum fall arrest distance of 2'. Type B SRLs have a maximum arrest distance of 4.5'. **If there's a chance the lifeline will impact an edge, a Leading Edge certified lifeline must be used.**
- **Vertical lifeline:** used in vertical climbing applications: a worker moves up a rope using a rope grab, which locks onto the rope in the event of a fall.

