

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.

Double-head anchor means two anchor heads in the window frame on each side of a window, being used simultaneously and not singly, as part of a window cleaner's positioning system.

Equivalent means alternative designs, materials or methods to protect against a hazard which 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.

Free fall means the act of falling before the personal fall arrest system begins to apply force to arrest the fall.

Free fall distance means the vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance, lifeline and lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline\lanyard extension before they operate and fall arrest forces occur.

Ladder belt means a belt which may be attached to a fixed ladder or a secured portable ladder while the employee is performing work from the ladder.

Ladder safety device means a device other than a cage or well, designed to help prevent accidental falls from ladders, or to limit the length of such falls. A ladder safety device usually consists of a carrier, safety sleeve, and body belt or harness.

Lanyard means a flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

Lifeline means 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.

Lineman's body belt means a belt which consists of a belt strap and dee-rings, and may include a cushion section or a tool saddle.

Personal fall arrest system means a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.

Personal fall protection system means a personal fall arrest system, a positioning device system, or a personal fall protection system for climbing activities which protects a worker from falling, or safely arrests a worker's fall, should a fall occur.

Personal fall protection system for climbing activities means a system worn or

attached to an employee designed to prevent an employee from being injured should the employee fall while ascending or descending.

Pole strap means a strap used for supporting the employee while working on poles, towers, or platforms. Snap-hooks on each end are provided for attachment to dee-rings on the lineman's body belt.

Positioning device system means a system of equipment or hardware which, when used with its body belt or body harness, allows an employee to be supported on an elevated vertical surface, such as a wall or windowsill, and work with both hands free.

Qualified person means one with a recognized degree or professional certificate and extensive knowledge and experience in the subject field who is capable of design, analysis, evaluation and specifications in the subject work, project, or product.

Restraint (tether) line means a line from an anchorage or between anchorages, to which the employee is secured in such a way as to prevent the employee from walking or falling off an elevated work surface.

Rope grab means a deceleration device which travels on a lifeline and automatically frictionally engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/lever locking, or both.

Saddle belt means a belt which has additional straps for supporting an employee in a sitting position at a work station.

Safety sleeve means the moving component with locking mechanism of a ladder safety device which travels on the carrier and connects the carrier to the body belt or harness.

Self-retracting lifeline/lanyard means a deceleration device which contains a drum-wound line which may be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

Single-head anchor means one anchor head in the window frame on each side of the window used for attaching each end (belt terminal) of a window cleaner's strap.

Snap-hook means 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. Snap-hooks may generally be one of two types:

(1) The locking type with a self-closing, self-locking keeper which remains closed and locked until unlocked and pressed open for connection or disconnection, or

(2) The non-locking type with a self closing keeper which remains closed until pressed open for connection or disconnection.

Tie-off means the act of an employee, wearing personal fall protection equipment, to connect directly or indirectly to an anchorage. It also means the condition of an employee being connected to an anchorage.

Window cleaner's belt means a belt which consists of a waist-belt, an integral terminal runner or strap, and belt terminals.

Window cleaner's positioning system means a system which consists of a window cleaner's belt secured to window anchors.

(c) General requirements. (1) Connectors shall be drop forged, pressed or formed steel, or made of equivalent materials.

(2) Connectors shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to interfacing parts of the system.

(3) Lanyards and vertical lifelines which tie-off one employee shall have a minimum breaking strength of 5,000 pounds (22.2 kN).

(4) Self-retracting lifelines and lanyards which automatically limit free fall distance to two feet (0.61 m) or less shall have components capable of sustaining a minimum static tensile load of 3,000 pounds (13.3 kN) applied to the device with the lifeline or lanyard in the fully extended position.

(5) Self-retracting lifelines and lanyards which do not limit free fall distance to two feet (0.61 m) or less, ripstitch lanyards, and tearing and deforming lanyards shall be capable of sustaining a minimum tensile load of 5,000 pounds (22.2 kN) applied to the device with the lifeline or lanyard in the fully extended position.

(6) Dee-rings and snap-hooks shall be capable of sustaining a minimum tensile load of 5,000 pounds (22.2 kN).

(7) Dee-rings and snap-hooks shall be proof-tested to minimum tensile load of 3,600 pounds (16 kN) without cracking, breaking, or taking permanent deformation.

(8) Snap-hooks shall be dimensionally compatible with the member to which they are connected so as to prevent unintentional disengagement of the snap-hook by depression of the snap-hook keeper by the connected member, or shall be a locking type snap-hook designed to prevent disengagement of the snap-hook by the contact of the snap-hook keeper by the connected member.

(9) Horizontal lifelines shall be 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.

(10) Anchorages, including single- and double-head anchors, shall be capable of supporting at least 5,000 pounds (22.2 kN) per employee attached, or shall be designed, installed, and used under the supervision of a qualified person as part of a complete personal fall protection system which maintains a safety factor of at least two.

(11) Restraint lines shall be capable of sustaining a tensile load of at least 3,000 pounds (13.3 kN).

(12) Lifelines and carriers shall not be made of natural fiber rope.

(13) Snap-hooks shall not be connected to each other.

(14) Personal fall protection systems and their components shall be used only for employee fall protection.

(15) Personal fall protection systems or their components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection unless inspected and determined by a competent person to be undamaged and suitable for reuse.

(16) Before using personal fall protection systems, and after any component or system is changed, employees shall be trained in the