

application limits of the equipment, proper hook-up, anchoring and tie-off techniques, methods of use, and proper methods of equipment inspection and storage.

(17) Personal fall protection systems shall be inspected prior to each use for mildew, wear, damage, and other deterioration. Defective components shall be removed from service if their function or strength has been adversely affected.

§ 1910.129 Personal Fall Arrest Systems

(a) Scope and application. (1) This section establishes performance criteria and care and use requirements for personal fall arrest systems. It applies only where referenced by a specific OSHA standard.

(b) System performance criteria. (1) Personal fall arrest systems shall, when stopping a fall:

(i) Limit maximum arresting force on an employee to 900 pounds (4 kN) when used with a body belt.

(ii) Limit maximum arresting force on an employee to 1,800 pounds (8 kN) when used with a body harness;

(iii) Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet (1.07 m); and

(iv) Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of six feet (1.8 m), or the free fall distance permitted by the system, whichever is less.

(2)(i) When used by employees having a combined person and tool weight of less than 310 pounds (140 kg), personal fall arrest systems which meet the criteria and protocol contained in 1910.129 of Appendix C shall be considered as complying with the provisions of paragraphs (b)(1)(i) through (b)(1)(iv) of this section.

(ii) When used by employees having a combined tool and body weight of 310 pounds (140 kg) or more, personal fall arrest systems which meet the criteria and protocols contained in 1910.129 of Appendix C may be considered as complying with the provisions paragraphs (b)(1)(i) through (b)(1)(iv) of this section, provided that the criteria and protocols are modified appropriately to provide proper protection for such heavier weights.

(c) Care and use.

(1) Unless the snap-hook is designed for the following connections, snap-hooks shall not be engaged:

(i) Directly to webbing, rope or wire rope;

(ii) To each other;

(iii) To a dee-ring to which another snap-hook or connector is attached;

(iv) To a horizontal lifeline; or

(v) To any object which is incompatibly shaped or dimensioned in relation to the snap-hook such that unintentional disengagement could occur by the connected object being able to depress the snaphook keeper and release itself.

(2) Devices used to connect to a horizontal lifelines which may become a vertical lifeline shall be capable of locking in either direction on the lifeline.

(3) Personal fall arrest systems shall be rigged such that an employee can neither free fall more than six feet (1.8 m), nor contact any lower level.

(3) Personal fall arrest systems shall be worn with the attachment point of the body belt located in the center of the wearer's back, and the attachment point of the body harness located in the center of the wearer's back near shoulder level, or above the wearer's head.

(5) When vertical lifelines are used, each employee shall be provided with a separate lifeline.

(6) The employer shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.

(7) Lifelines shall be protected against being cut or abraded.

§ 1910.130 Positioning device systems.

(a) Scope and application. This section establishes additional application and performance criteria for positioning device systems. It applies only where referenced by a specific OSHA standard.

(b) System performance criteria. (1) A window cleaner's positioning system shall be capable of withstanding without failure a drop test consisting of a six (1.83 m) drop of a 250 pound (113 kg) weight. The system shall limit the initial arresting force to not more than 2,000 pounds (8.89 kN), with a duration not to exceed two milliseconds, and shall limit any subsequent arresting forces imposed on the falling employee to not more than 1,000 pounds (4.45 kN).

(2) All other positioning device systems shall be capable of withstanding without failure a drop test consisting of four foot (1.2 m) drop of a 250 pound (113 kg) weight.

(3) Positioning device systems which meet the tests contained in 1910.130 of Appendix C, shall be deemed in compliance with the provisions of paragraphs (b)(1) and (2) of this section.

(c) Lineman's body belt and pole strap systems. The following additional provisions shall apply to lineman's body belt and pole strap systems:

(1) All materials used for pole straps shall be capable of withstanding an alternating current (A.C.) dielectric test of not less 25,000 volts per foot (82,020 volts per meter) "dry" for three minutes, without visible deterioration.

(2) Materials shall not be used if leakage current exceeds one milliampere when a potential of 3,000 volts is applied to electrodes positioned 12 inches (30.5 cm) apart.

(3) In lieu of alternating current (A.C.), direct current (D.C.) may be used to evaluate the requirements 1910.130(c)(1) and (2). The D.C. voltage used shall be two times the A.C. voltage used for these tests.

(4) The cushion part of the lineman's body belt shall be at least three inches (7.6 cm) in width.

(5) Suitable copper, steel, or other liners shall be used around the bars of dee-rings where they are attached to body belts to prevent weakening of the body belt due to wear and tear.

(d) Window cleaner's belts, anchorages and systems. The following additional provisions shall apply to window cleaner's belts, anchorages and systems.

(1) The belt shall be designed and constructed so that belt terminals will not

pass through their fastenings on the belt or harness should one terminal become loosened from its window anchor. The length of the runner from terminal tip to terminal tip shall be eight feet (2.44 m) or less.

(2) The anchors on a building to which the belt is to be fastened shall be installed in the side frames of the window or in the mullions at a point not less than 42 inches (106.7 cm) nor more than 51 inches (129.5 cm) above the window sill. Each anchor, and the structure to which it is attached, shall be capable of supporting a minimum load of 6,000 pounds (26.5 kN).

(3) Rope which has sustained wear or deterioration materially affecting its strength may not be used.

(4) Anchors whose fastenings or supports are damaged or deteriorated shall be removed or rendered unusable by detachment of the anchor head(s).

(5) An installed single or double-head anchor may not be used for any purpose other than attachment of a window cleaner's belt.

(6) Both belt terminals shall be attached to separate single or double-head anchors during the cleaning operation.

(7) Cleaning work is not permitted on a sill or ledge on which there is snow, ice, or any other slippery condition, nor on a weakened or rotted sill or ledge.

(8) A window cleaner may work from a windowsill only if a minimum standing room in relation to slope is provided as follows:

(i) When the sill width is at least four inches (10.1 cm), work is permitted with a slope of the sill from horizontal up to 15 degrees;

(ii) For slopes between 15 and 30 degrees from horizontal, but in no case greater than 30, the minimum acceptable sill width is four inches (10.1 cm), plus 0.4 inches (1.0 cm) for every degree of slope greater than 15 degrees.

(9) The window cleaner shall attach at least one belt terminal to a window anchor before climbing through the window opening. The belt shall not be completely disconnected from both anchors until the employee is back inside the window opening.

(10) The window cleaner shall not pass from one window to another while outside the building, but shall return inside and repeat the belt terminal attachment procedure for each window as described in paragraph (d)(9) of this section.

§ 1910.131 Personal fall protection systems for climbing activities.

(a) Scope and application. This section establishes additional application and performance criteria for personal fall protection systems for climbing activities. It applies only where referenced by a specific OSHA standard.

(b) Design criteria for systems components.

(1) Personal fall protection systems for climbing activities shall permit the employee using the system to ascend or descend without continually having to hold, push or pull any part of the system, leaving both hands free for climbing.

(2) The connection between the carrier or lifeline and the point of attachment to the body belt or harness shall not exceed nine inches (23 cm) in length.