

Glossary of Fall Protection Terms

access. A means of reaching a workspace or a work area (Cal/OSHA Construction Safety Orders, Section 1505).

anchorage. A secure point of attachment for lifelines, lanyards or deceleration devices (Cal/OSHA Construction Safety Orders, Title 8, Section 1504). (ANSI Z359.0 distinguishes the term anchorage from the term *anchorage connector*. An anchorage is typically a fixed structural member.)

anchorage, certified. An anchorage for fall arrest, positioning, restraint, or rescue systems that a qualified person certifies to be capable of supporting the potential fall forces that could be encountered during a fall or that meet the criteria for a certified anchorage prescribed in these standards (ANSI Z359.0).

anchorage, noncertified. A fall arrest anchorage that a competent person can judge to be capable of supporting the predetermined anchorage forces (ANSI Z359.0).

anchorage connector. A component that enables the fall protection system to be attached when the anchorage itself does not have a compatible connection point (ANSI Z359.0-2012).

ANSI Z359, The Fall Protection Code. The national voluntary consensus fall protection equipment standard for general industry. Z359 is considered a benchmark standard, one that has been incorporated into many industrial fall protection programs. Z359 is a family of standards (numbered Z359.0, Z369.1 Z359.2 and so on) that cover a wide variety of topics related to fall protection and rescue including fall arrest, travel restraint and worker positioning systems.

approved. When the term “approved” is used by Cal/OSHA, it refers to products, materials, devices, systems, or installations that have been approved, listed, labeled, or certified as conforming to applicable governmental or other nationally recognized standards, or applicable scientific principles (Cal/OSHA Construction Safety Orders, Section 1505).

arrest distance. The total vertical distance required to arrest a fall. The arrest distance includes the deceleration distance and activation distance (ANSI Z359.0-2012).

authorized (in reference to an employee’s assignment). Selected by the employer for that purpose (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

base section (of an extension ladder). The lowest section of an extension ladder.

basket hitch. A continuous round sling in a cradle configuration. This hitch has greater capacity than other hitches.

body belt. A simple or compound strap with means for securing it about the waist and for securing a lanyard to it (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

body harness. Straps which 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 (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

buckle. Any device for holding the body belt or body harness closed around the employee’s body (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

building. Any structure as to which state agencies have regulatory power, built for support, shelter, housing or enclosure of persons, animals, chattels, equipment, or property of any kind, and also

includes structures wherein things may be grown, made, produced, kept, handled, stored, or disposed of. All appendages, accessories, apparatus, appliances, and equipment installed as a part of a building or structure shall be deemed to be a part thereof, but “building” shall not include machinery, equipment, or appliances installed for manufacture or process purposes only, nor shall it include any construction installations which are not a part of a building, any tunnel, mine shaft, highway, or bridge, or include any house trailer or vehicle which conforms to the Vehicle Code (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

carabiner. A connector generally comprised of a trapezoidal or oval shaped body with a closed gate or similar arrangement that may be opened to attach another object and, when released, automatically closes to retain the object (ANSI Z359.0).

catwalk (maintenance runway). Narrow elevated level or inclined walkway not intended as a routine passageway, but normally used as access for special purposes such as light maintenance, adjustment, inspection, or observation (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

choker hitch. A hitch made by wrapping a lanyard or line around a member and attaching it back to itself (using a connector) or threading the line through the end loop. Due to the stress created at the choke point, slings rigged with this hitch achieve only about 75% of their potential capacity.

clearance requirement. The distance below an authorized person that must remain clear of obstructions in order to ensure that the authorized person does not make contact with any objects that would cause injury in the event of a fall (ANSI Z359.0-2012).

compatible connection. A connection that will not fail when used in the manner intended.

competent person. One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

connector. A device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabiner, or it may be an integral component of part of the system (such as a buckle or D-ring sewn into a body belt or body harness, or a snaphook spliced or sewn to a lanyard or self-retracting lanyard) (Cal/ OSHA Construction Safety Orders, Title 8, Section 1504).

controlled access zone (CAZ). An area in which certain work may take place without the use of guardrails, personal fall arrest systems, or safety nets and access to the zone is controlled (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

D-ring. Attachment hardware, used on body harnesses and anchorages, to which a locking connector attaches for fall arrest and other personal fall protection systems.

D-ring, dorsal. The D-ring attachment located between the shoulders on the back of a fall arrest full-body harness.

D-ring, sternal. The D-ring attachment located in the center of the chest on a full-body harness used as part of a fall limiting systems such as a ladder safety system.

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 (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

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 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 (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

defect. Any characteristic or condition which tends to weaken or reduce the strength or the safety of the tool, machine, object, or structure of which it is a part (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

equivalent. An alternate design, feature, device, or protective action which provides an equal degree of safety (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

eye, formed. A loop or eye, with or without a thimble, formed in the end of a rope, wire rope or strap and secured by means of a splice, swaged fitting (mechanically pressed sleeve) or stitched joint (ANSI Z359.0-2012).

Fall arrest system. See personal fall arrest system.

fall hazard. Any location where a person is exposed to a potential free fall (ANSI Z359.0-2012).

fall limiting device. A fall limiting device limits free fall-distance to 2-ft. or less and limits the arresting force to 900 lb. or less.

fall protection, active. A fall protection system that requires authorized persons to wear or use fall protection equipment and that requires fall protection training (ANSI Z359.0-2012). See personal fall protection system.

fall protection, passive. For the purposes of distinguishing a hierarchy of fall protection methods, ANSI Z359 describes passive protection as a system that isolates or separates the hazard or work practice from workers through the use of guardrails or by covering exposed floor openings. Passive systems do not require the use of personal fall protection equipment or active participation from the worker. Note: Safety nets, while "passive", are a form of fall arrest, so they place lower on the hierarchy of fall protection.

fall restraint system. See personal fall restraint system and travel restraint.

floor hole. Any opening in a floor or platform which is smaller than a floor opening (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

floor opening. An opening in any floor or platform, 12 inches or more in the least horizontal dimension. It includes stairway floor openings, ladderway floor openings, hatchways, and chute floor openings (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

fly section (of an extension ladder). The upper section of an extension ladder.

free fall. The act of falling before a personal fall arrest system begins to apply force to arrest the fall (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

free-fall distance. The vertical displacement of the fall arrest attachment point on the employee's 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, and lifeline/lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

frequent. For the purpose of Cal/OSHA General Industry Safety Orders, frequent means more than twelve times each year unless specifically stated otherwise in individual orders (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

gate. The element of a connector that opens to receive an object and closes when released to retain the object (ANSI Z359.0-2012).

grab-rail. A securely mounted rail or bar used to provide support for workers where they transition from an access ladder onto an elevated surface. If an access ladder does not extend at least 3 feet above the top support, a grab-rail must be provided for mounting and dismounting the ladder.

guardrail. A vertical barrier erected along the open edges of a floor opening, wall opening, ramp, platform, runway, or other elevated area to prevent falls of persons (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207). (See also Railing).

handrail. A rail used to provide employees with a handhold for support (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

hazard elimination. Changing the task, process, controls or other means so as to remove the need for a person to be exposed to a fall hazard. (ANSI Z359.0-2012) In the hierarchy used to choose a method of fall protection, hazard elimination is the lowest risk, and therefore the preferred method of fall protection.

ladder. For general industry, a ladder is defined as an appliance usually consisting of two side rails joined at regular intervals by crosspieces called steps, rungs, or cleats, on which a person may step in ascending or descending (Cal/OSHA General Industry Safety Orders, Title 8, Section 3276).

ladder, fixed. A ladder permanently fastened to a structure (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

ladder, extension. An extension ladder is a non-self-supporting portable ladder adjustable in length. It consists of two or more sections traveling in guides or brackets so arranged as to permit length adjustment. Its size is designated by the sum of the lengths of the sections measured along the side rails (Cal/OSHA Construction Safety Orders, Title 8, Section 3276).

ladder, job-built. A ladder that is fabricated by employees, typically at the construction site, and is not commercially manufactured (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

ladder, portable. A ladder, not permanently fixed in place, which may be used at various locations (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

ladder, step ladder. A step ladder is a self-supporting portable ladder, nonadjustable in length, having flat steps and a hinged back. Its size is designated by the overall length of the ladder measured along the front edge of the side rails (Cal/OSHA Construction Safety Orders, Title 8, Section 3276).

ladder, step stool. A self-supporting, collapsible, portable ladder, nonadjustable in length, 32 inches or less in overall size, with flat steps and without a pail shelf, designed to be climbed on the ladder topcap as well as all steps. The rails may continue above the topcap (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

ladder, trestle or "A". A ladder consisting of two special, single ladders hinged together at the top to form equal angles with the surface on which they stand (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

ladder safety system. A fall arrest system designed to protect workers while using a ladder. Ladder safety systems often use a vertical lifeline anchored above the top of the ladder in conjunction with a rope-grab device, body harness, and sometimes a decelerator.

landing. An extended step or platform breaking a continuous run of steps or ramps (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

lanyard. A flexible line to secure a wearer of a safety belt or harness to a drop line, lifeline, or fixed anchorage (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

leading edge. The edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed. A leading edge is considered to be an “unprotected side and edge” during periods when it is not actively and continuously under construction (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

lifeline. A horizontal line (i.e., catenary line) between two fixed anchorages, independent of the work surface, to which the lanyard is secured either by tying off or by means of a suitable sliding connection. Lifelines may be vertical as well as horizontal (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

lip (of a stage). The front edge of the stage.

lower levels. Those areas or surfaces to which an employee can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

lumber, selected. See selected lumber.

midrail. A rail approximately midway between the top rail and platform, that is secured to the uprights erected along the exposed sides and ends of platforms (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

nose, nosing. That portion of a tread projecting beyond the face of the riser immediately below (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

o-zone. Any area of the perms that is outside the protected catwalks. The term is also used to describe dimensions of openings in the perms, i.e. 4 x 10 ft. o-zone.

orthostatic intolerance. The medical term “orthostatic” is defined as medical conditions relating to, or caused by, an upright or standing posture. Following a fall, a worker is suspended in a harness for a period of sustained immobility and can develop symptoms such as light-headedness, palpitations, tremulousness, poor concentration, fatigue, nausea, dizziness, headache, sweating, weakness and fainting and unconsciousness and death. See also “suspension trauma.”

overhead protection. Protection from exposure to falling objects.

perms (permanents). The grid of beams and joists that is an integrated part of the building’s overhead structure in traditional film and television studios. The perms may be 20 to 60 ft. or more above the stage floor.

personal fall arrest system. A system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207 and Construction Safety Orders, Title 8, Section 1504).

personal fall restraint system. Cal/OSHA uses the term “fall restraint”. ANSI Z359.3 uses the term “travel restraint”, which is actually more descriptive of the system (the system does not “restrain” a fall, it restrains the travel of the worker so that a fall is entirely prevented). OSHA defines such a system as follows: a system used to prevent an employee from falling. It consists of anchorages, connectors, body belt/harness. It may include, lanyards, lifelines, and rope grabs designed for that purpose (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207 and Construction Safety Orders, Title 8, Section 1504). (See also travel restraint.)

personal fall protection system. A personal fall protection system includes personal fall arrest systems, positioning device systems, fall restraint systems, safety nets and guardrails (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207 and Construction Safety Orders, Title 8, Section 1504).

platform. An elevated working level for persons. Storage platforms, balconies and open-sided floors are considered platforms for the purpose of the Cal/OSHA General Industry Safety Orders (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

positioning device system. A body belt or body harness system rigged to allow an employee to be supported on an elevated surface, such as a wall, and work with both hands free while leaning (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207 and Construction Safety Orders, Title 8, Section 1504).

pull-away ring. A ring designed to attach to the body harness by friction that will pull off easily when sufficient force is applied. A pull-away ring is used to stow the unused leg of a Y-lanyard so that it is out of the way but is not attached in any permanent way to the person or harness. This reduces the risk that the unused leg could cause injury or interfere with the operation of the fall arrest system.

qualified person, attendant or operator. A person designated by the employer who by reason of training, experience or instruction has demonstrated the ability to safely perform all assigned duties and, when required, is properly licensed in accordance with federal, state, or local laws and regulations (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

railing. A barrier consisting of a top rail and a midrail secured to uprights and erected along the exposed sides and ends of platforms (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

rescue. The process of removing a person from danger, harm or confinement to a safe location (ANSI Z359.0-2012).

rescue plan. A written process that describes in a general manner how rescue is to be approached under the specified parameters, such as location or circumstances (ANSI Z359.0-2012).

rescue procedure. A written series of logical steps that describes the specific manner in which rescue is to be accomplished (ANSI Z359.0-2012).

rise (r.e. stairs). The vertical distance from the top of a tread to the top of the next higher tread (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

riser (r.e. stairs). The upright member of a step situated at the back of a lower tread and near the leading edge of the next higher tread (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

rollout. A process by which a snaphook or carabiner unintentionally disengages from another connector or object to which it is coupled (ANSI Z359.0-2012).

rope grab (fall arrester). A device that travels on a lifeline and automatically, by friction, 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/level locking, or both (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

rope grab, static (or manual). A rope-grab device that by default is locked in place and must be manually unlocked to move it along the lifeline.

rope grab, trailing (or mobile). A rope-grab device that by default is free to move along the lifeline and will automatically lock in the event of a fall.

safety monitoring system. A safety system in which a competent person is responsible for recognizing and warning employees of fall hazards (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

selected lumber.

(A) **Douglas Fir or equivalent.** "Selected lumber" or other suitable material of proper size, having strength at least equal to the specified Douglas fir members.

(B) **"selected lumber".** Douglas fir that has been graded under standards as high as those followed by the West Coast Lumber Inspection Bureau or by the Western Wood Products Association as suitable for a bending stress of 1,500 psi. (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

self-retracting lifeline/lanyard (SRL). A Class A deceleration device containing a drum-wound line that can 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 (Cal/OSHA Construction Safety Orders, Title 8, Section 1504). ANSI Z359 distinguishes an SRL from an SRL-LE or SRL-R by defining an SRL as a device suitable for application where, during use the device is mounted or anchored such that possible free fall is limited to 2 feet or less (ANSI Z359.0-2012).

self-retracting lanyard with leading edge capability (SRL-LE). A Class B self-retracting device suitable for applications where during use the device is not necessarily mounted or anchored overhead. The device may be at foot level and where the possible free fall is up to 5 feet that includes integral means to withstand impact loading of the line constituent with a sharp or abrasive edge during fall arrest and for controlling fall arrest forces on the user (ANSI Z359.0-2012).

shock absorber (energy absorber). A component whose primary function is to dissipate energy and limit deceleration forces that the system imposes on the body during fall arrest (ANSI Z359.0-2012).

shock pack. A deceleration device often incorporated into a shock absorbing lanyard.

shoe (of a ladder). That component of ladder support that is the slip-resistant bearing surface in contact with the ground.

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 (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

stairs, stairways. A series of steps and landings having 2 or more risers leading from one level or floor to another (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

stair railing. A vertical barrier erected along exposed sides of a stairway to prevent falls of persons.

standard. Standard as referred to ladders, ROPS, railings, etc., means as described in the Cal/OSHA Safety Orders, ultimately based upon standards established by ANSI, SAE, engineers competent in

specialized fields, equipment manufacturers and other duly recognized authorities (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

structure. That which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

sub-pelvic strap (butt strap). A full-body harness strap, which passes under the buttocks without passing through the crotch and is designed to transmit, to the sub-pelvic part of the body, forces applied during fall arrest and post-fall suspension (ANSI Z359.0-2012).

suspension trauma. Orthostatic intolerance leading to death. While not common, such fatalities often are referred to as “harness-induced pathology” or “suspension trauma.” (See *also* orthostatic intolerance.)

tie-back lanyard. A lanyard designed to be connected by wrapping it around the anchorage member and connecting it back to itself.

thimble. A grooved metal or plastic piece about which a rope is bent and spliced or swaged to the main body of the rope to form an eye (ANSI Z359.0-2012).

toeboard. A vertical barrier erected along the open edges of floor openings or floor holes, platforms, and runways (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

travel restraint system. A combination of anchorage, anchorage connector, lanyard (or other means of connection) and a body harness or body belt that limits travel in such a manner that the user is not exposed to a fall hazard (ANSI Z359.0-2012).

traveler. A device that fastens to and moves freely along a horizontal lifeline and provides a traveling attachment point for the fall arrest subsystem. See also trolley.

tread. The horizontal member of a step (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

trigger height. The height of a work area above an adjoining area at which fall protection regulations are triggered requiring guardrails or other fall protection.

trolley. A mobile anchorage device that travels along a track (horizontal track system), structural beam (ridged rail system) or cable (horizontal lifeline system). (ANSI Z359.0-2012) See also traveler.

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 standard guardrail or protection provided (Cal/OSHA Construction Safety Orders, Title 8, Section 1504).

wall opening. Wall Opening. An opening in a wall or partition not provided with glazed sash, having a height of at least 30 inches and a width of at least 18 inches, through which a person might fall to a level 30 inches or more below (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

working level or working area. A platform, walkway, runway, floor or similar area fixed with reference to the hazard and used by employees in the course of their employment. This does not include ladders or portable or temporary means used for access, repair or maintenance, provided such means are removed immediately upon completion of the work (Cal/OSHA General Industry Safety Orders, Title 8, Section 3207).

Y-lanyard (double-leg lanyard). A fall arrest lanyard that has two legs for attachment to anchor points.