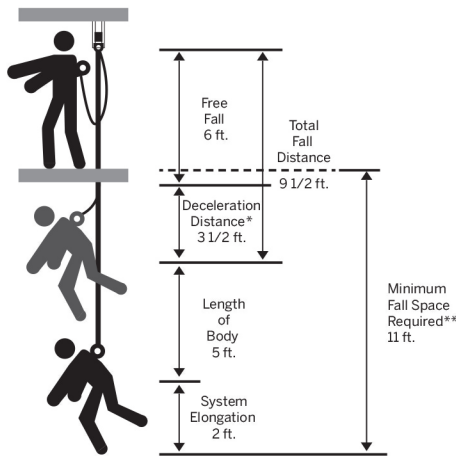


## PROPER TIE-OFF WITH 6 FT. ENERGY ABSORBER



\* Energy absorber extension \*\* Actual space may vary

## FALL AND DECELERATION DISTANCES

The distance a worker can fall should be kept as short as possible. OSHA requires that fall arrest systems be rigged in such a way as to limit free fall distance to a maximum of 6' and not allow a worker to contact a lower surface. To reduce free fall distances, lanyards should be as short as possible.

Deceleration distance is the distance which is used to arrest a fall. It is important that deceleration distance, as well as free fall distance, be considered when evaluating a fall hazard to ensure that a worker will not come in contact with a lower level and to reduce the possibility of serious injury. When using stitch or tear webbing, the maximum deceleration distance allowed is 42" (3 1/2').

This distance is not included in the 6' maximum free fall. Therefore, a severe fall can include a free fall of up to 6' and a deceleration distance of up to 42" (3 1/2') for a total fall distance of 9 1/2'. (It is also important to keep in mind lifeline elongation and the length of the user's body when determining how much fall space is required). Always allow at least a 3' safety margin when rigging your fall arrest system.

## IMPORTANT OSHA INFORMATION



The following summary of applicable regulations for fall protection and safety are derived from the Occupational Safety and Health Administration Standards.

- Each employee on a walking/working surface 6 feet (1.8m) or more above lower levels shall be protected from falling by a guardrail system, safety net system, or personal fall arrest system.
- "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 harness and may include a lanyard, deceleration device, lifeline, or suitable combination of these. As of January 1, 1998, the use of a body belt for fall arrest is prohibited.
- Personal fall arrest systems, when stopping a fall, shall:
  - limit maximum arresting force on an employee to 1,800 lbs. (8 kN) when used with a body harness;
  - be rigged such that an employee can neither free fall more than 6 feet (1.8m), nor contact any lower level;
  - bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet (1.07m); and,
  - have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet (1.8m), or the free fall distance permitted by the system, whichever is less.
- The attachment point of the body harness shall be located in the center of the wearer's back near shoulder level, or above the wearer's head.
- Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until inspected and determined by a competent person to be undamaged and suitable for reuse.
- 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.
- Personal fall arrest systems shall be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service.
- Selection and use considerations – The kind of personal fall arrest system selected should match the particular work situation, and any possible free fall distance should be kept to a minimum.

Consideration should be given to the particular work environment. For example, the presence of acids, dirt, moisture, oil, grease, etc., and their effect on the system, should be evaluated. Hot or cold environments may also have an adverse effect on the system. Wire rope should not be used where an electrical hazard is anticipated.

- Component compatibility considerations – Ideally, a personal fall arrest system is designed, tested, and supplied as a complete system. However, it is common practice for lanyards, connectors, lifelines, deceleration devices, body belts and body harnesses to be interchanged since some components wear out before others. The employer and employee should realize that not all components are interchangeable.
- Employee training considerations – Thorough employee training in the selection and use of personal fall arrest systems is imperative. Employees must be trained in the safe use of the system. This should include the following:
  - application limits; proper anchoring and tie-off techniques; estimation of free fall distance, including determination of deceleration distance, and total fall distance to prevent striking a lower level; methods of use; and inspection and storage of the system. Careless or improper use of the equipment can result in serious injury or death . . . Of uppermost importance is the reduction in strength caused by certain tie-offs (such as using knots, tying around sharp edges, etc.) and maximum permitted free fall distance.
  - Also to be stressed are the importance of inspections prior to use, the limitations of the equipment, and unique conditions at the worksite which may be important in determining the type of system to use.

The above information highlights many of the OSHA Standards that apply to fall protection. Employers and employees should read and understand all applicable regulations to assure compliance.

PRO-SAFE equipment is designed and manufactured to comply with the requirements of The Occupational Safety and Health Act (OSHA); exceptions are noted. Compliance with laws, standards, and specifications are on the date of shipment from the point of manufacture.

Call PRO-SAFE Toll-Free at **877.776.7231** if there are any questions regarding the use of any equipment.