

TOOLBOX TALK #34

FALL PROTECTION

In the construction industry in the United States, falls are the leading cause of worker fatalities. Each year, on average, between 150 and 200 workers are killed and more than 100,000 are injured as a result of falls at construction sites. The standard for fall protection deals with both the human and equipment-related issues in protection workers from fall hazards.



There are two types of fall protection; *Fall Restraint and Fall Arrest*.

Fall Restraint includes such items as a guardrail or parapet wall. It can also consist of a personal fall restraint system which keeps you from reaching an unprotected “fall” point. Guardrails (on scaffolds, aerial lifts and on the perimeters of buildings) are considered to be fall restraint. They must have a top rail at least 39” to 45” above a working surface. The top rail must be able to withstand a force of 200 pounds in any direction. Mid rails must be placed midway between the top rail and the working surface and be able to withstand a force of 150 pounds. Top and mid rails must be at least 1/4 inch in diameter so as to prevent cuts or lacerations. Guardrails are used to protect workers from falls greater than 6 feet.

Fall Arrest stops you if you are falling. If you are at risk of falling 6 feet or more, you must use the appropriate fall protection equipment. One type of appropriate fall protection equipment is the personal fall arrest system. The entire personal fall arrest system must be capable of withstanding the tremendous impact forces involved in a fall. A person without protection will free-fall 4 feet in 1/2 a second and 16 feet in 1 second! A personal fall arrest system includes a full-body harness, a shock absorbing lanyard or a rope grab and a vertical lifeline and a sound anchorage able to support a load of 5000 pounds.

DO:

- Pick an anchor point that will support 5000 pounds per worker (strong enough to support a pick-up truck)
- Fall arrest systems should be rigged so employees can’t free-fall more than 6 feet (or contact any lower level)
- Tie-off above your head. A six foot person who ties off at the feet could free-fall as much as 12 feet.
- Place your anchorage directly above/behind your work area to avoid potential swing fall hazards.
- Use the shortest lanyard possible. The shorter the tie-off the shorter the fall.
- Have anchorage points selected by a competent person.

DON’T:

- Do not tie-off to vent pipes or a non-structured non-designated area.
- Do not tie a knot in a lanyard. This will reduce its strength.
- Do not use water pipes, electrical conduits, light fixtures, or guardrails as anchor points. Do not use any lanyards without self-locking snap hooks.
- Do not join multiple lanyards together to reach an anchorage.
- Do not allow more than one worker to tie-off to the same anchorage unless it is designed and approved by an engineer.
- Do not unhook from fall protection while exposed to a fall greater than 6 feet.
- Do not allow someone else to rig your equipment unless you verify that it has been done correctly.
- Do not use an anchorage that is not independent of any anchorage used to support or suspend platforms.