

TOOLBOX TALK #32

FALL PROTECTION MISUSE – INAPPROPRIATE ANCHOR CONNECTIONS

Some lanyards are designed to accommodate being wrapped back upon themselves. The vast majority are not. When using lanyards improperly in this way, users risk equipment failure due to improper gate loading or lanyard material damage due to point loading. This scenario creates another loading condition that the equipment has not been tested to address. The current testing standards on lanyards does not include testing for wrap-back lanyards. Beyond whether the lanyard is rated to be wrapped on itself, it is critical to be aware of what the lanyard is wrapped around. Users must know whether the lanyard is wrapped around piping, ductwork, beams or guardrail, and whether corners, edges or other elements could create a sawing action. To avoid this misuse concern, focus on the following considerations:



- Maintain unobstructed load path between anchor and potential fall path of worker.
- Use a simple beam strap or beam clamp designed as an anchorage connector to address these concerns.

Anchored Below Dorsal D-Ring

When workers anchor below their feet, it increases free fall, potentially above the allowable limits of the equipment. This misuse could result in failure of the lanyard or anchorage, or exceed the allowable force on the body, thus increasing the likelihood of serious injury. Increased fall distance results in increased forces to the body, which can cause severe injury even if the system technically arrests the fall. So, even if it appears that fall risk has been minimized or eliminated, significant impact risk is still present. OSHA allows for a maximum of 6 ft of free fall. The only exemption is an OSHA Letter of Interpretation, which states that it is acceptable to exceed this only if the system can limit the maximum arresting force to 1800 lbs. It is best not to anchor below one's dorsal D-Ring; however, if no alternative exists, it can be done provided the proper equipment is used, namely a 12-foot free-fall energy absorbing lanyard or self-retracting lanyard that is rated for additional free fall. In either case, the average arresting force is more than that of the standard version and, therefore, the anchorage must be designed accordingly.

To avoid this issue:

- Do not stand if it is not necessary to do so
- Keep the center of gravity low to reduce free-fall distance and potential fall energy.
- Use correct equipment for the appropriate application (i.e. use 12-ft free-fall lanyard if the only anchorage option is below the dorsal D-Ring).