

TOOLBOX TALK #34

FALL PROTECTION MISUSE – HORIZONTAL LIFELINES

Horizontal lifelines (HLL) systems are perceived as low cost, simple, aesthetically pleasing solutions; they are touted for their ability to span long distances without overhead structure. However, they always require a qualified person's involvement due to the energy equations involved to properly design them. If the system is not designed properly, the end anchorage structure may be overloaded or cause an individual who has fallen to hit the ground due to the increase in anchorage system displacement.



End anchorage forces can easily exceed 5000 pounds. Fall clearance requirements can also be high with these systems. Changing parameters such as number of users, span length, intermediate anchorages and presence of an in-line energy absorber can greatly affect end anchorage forces and fall clearances. Because of this, it is critical to not make adjustments in the field without oversight by a qualified person.

These systems can also be misused due to poor installation (e.g., wire rope clips installed incorrectly) and improper intermediate anchorages that could result in point loading and failure of the cable.

Some other considerations related to HLLs ... workers should not attach a snap hook directly to an HLL. This can cause damage to both the HLL and the snap hook. Also, while HLLs can be inexpensive, they can be expensive if they require pass-thru devices.

The primary way to mitigate issues with HLL's is to involve a qualified person in design, inspection and use. This involvement is required by OSHA and is truly critical for such complex systems. In addition, qualified persons should:

- Specify all equipment components used in an HLL system, including intermediate anchorages, pass through devices and anchorage connectors.
- Develop detailed use and rescue procedures that provide design basis (e.g., number of users, maximum weigh, clearance requirements, inspection requirements) to ensure that systems are not used outside the manner in which they were designed.