

Horizontal Lifelines and Suspended Scaffolds

Horizontal lifelines must be used to provide fall protection for lower platform workers on multi-level suspended scaffolds. This type of fall protection is required on multi-level scaffolds since vertical lifelines will expose the user to a greater hazard in the event the scaffold falls. (A lower-level user will find himself/herself attempting to hold up the scaffold if a vertical lifeline is used!)

Before a horizontal lifeline can be used, an additional vertical secondary suspension line attached to an independent anchor must be installed for each vertical scaffold primary support line. This line attaches to the platform and provides the backup support for the platform in the event of primary support line failure. This additional line must be designed and installed so that it provides the protection that is necessary to protect the workers from catastrophic failure.

Once the scaffold primary and back-up support lines have been installed, attention can be directed to the horizontal lifeline for each worker on the lower platforms of the multi-level suspended scaffold. The components of the horizontal lifeline include the line, the anchor, and the connector between the user's lanyard and the line. Since the fall arrest force can be as high as 1800 pounds, the components must be designed appropriately.

The line can be a suitably sized wire rope or a rigid member such as a metal tube or rail. (Don't confuse a fall protection rail with a guardrail-they are not the same!) The rope should allow the user to move horizontally along the platform without hindrance. If multiple employees are going to use the line, be sure it is designed for that purpose. The connector between the user's lanyard and the horizontal lifeline must be compatible and have sufficient strength to either restrain a fall or arrest a fall. If workers are going between docks an engineered vertical lifeline system must be used. Carabineers and D-rings can only be used for heights of 10' and under, or in the case of a rigid rail system, a proprietary device designed to be used with the rail must be employed. The anchor for the horizontal lifeline must be carefully selected so that it can handle the potentially high forces that develop in use and used as directed by the manufacturer's recommendations. Simply connecting the horizontal line to a guardrail post or stirrup won't do. The loads imposed by a snug horizontal lifeline in use are significantly higher than those imposed on a guardrail post in normal use. Using the wrong anchor will result in a hazardous situation that will likely end in serious injury or death. Finally, for workers on the top platform a vertical lifeline can be installed, or a horizontal trolley line can be used.

For further information, see the following documents:

- ANSI A10.8, Safety Requirements for Scaffolding, American National Standard for Construction and Demolition Operations
- SSFI/SIA Code of Safe Practices for Suspended Scaffolds

This Technical Bulletin was prepared by members of the Scaffold & Access Industry Association SSFI Committee.

SSFI is a committee comprising manufacturers of shoring, scaffolding, forming, and suspended scaffolding. The committee focuses on engineering and safety aspects of scope products.

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