

# Safety Issues

## Mobile Scaffolds



### Tech Tip

The load rating of the casters used will limit the size, configuration and load capacity of the mobile scaffold; the platform shall not extend beyond the footprint of the base.

Mobile scaffolds, or rolling towers, are very useful tools in construction and maintenance. They provide a safe, efficient, easily movable and relatively inexpensive portable work platform. The most common type of mobile scaffold is simply a single bay supported scaffold tower with casters. Mobile scaffolds may be constructed using tube and coupler scaffold, fabricated frame scaffold or modular (Safway Systems™) type scaffold. As with any supported scaffold, however, it can be configured in many different ways. There are many items to keep in mind when designing, erecting and using mobile scaffold.

### OSHA Definition

OSHA currently defines a mobile scaffold as:

**A powered or unpowered, portable, caster- or wheel-mounted supported scaffold.**

Since we do not recommend using motors on mobile scaffolds, we will limit this discussion to unpowered, or manually propelled, scaffold only.

### Requirements for Mobile Scaffolds

The requirements for mobile scaffolds can be found in OSHA Subpart L 1926.452(w), titled "Mobile Scaffolds." These include:

- **The scaffold must be erected with cross, horizontal, or diagonal braces, or a combination of these to prevent racking and provide a rigid structure.**
- **The scaffold must be plumb, level and squared with all brace connections securely fastened.**
- **The scaffold casters must have positive wheel and swivel locks to prevent movement of the scaffold when it is in use.**
- **The manual force used to move the scaffold must be applied as close to the base as possible, but not more than 5 feet above the supporting surface.**
- **Employees shall not ride on scaffolding except under certain conditions (we recommend that no one be on the scaffold while it is being moved).**
- **Platforms shall not extend outward beyond the base supports of the scaffold unless outrigger frames or equivalent devices are used to ensure stability.**
- **Caster and wheel stems shall be pinned or otherwise secured in scaffold legs or adjustment screws.**

In addition to these requirements, the mobile scaffold must also comply with the requirements for Tube & Clamp scaffold or fabricated frame scaffold.

### Design of Mobile Scaffold

Since a mobile scaffold cannot be tied or guyed for stability, its height must not exceed four times its minimum base width (three times in California

and some other states). Outriggers may be used to provide a wider base. Horizontal diagonal braces must be placed at the base of the scaffold and repeated at 21-foot vertical intervals. Fabricated decks with hooks may be substituted for horizontal diagonal braces at the platform level.

The load rating of the casters will limit the size, configuration and load capacity of the mobile scaffold. The scaffold should be designed with the fewest possible number of casters. Mobile scaffolds with large footprints will result in load transfer between the casters when the tower is rolled over, even with minor floor variations. Large area mobile scaffolds shall only be designed by an engineer.

The platform shall not extend beyond the footprint of the base. In other words, do not use side brackets or cantilevered platforms on a mobile scaffold. This could cause the scaffold to tip. If a cantilevered platform is required for a particular application, it should be designed by an engineer who will analyze the overturning forces and compensate for them.

Prior to designing mobile scaffold, the designer must know how and where the scaffold is to be used, what loads are intended to be placed on the platform, how it will be moved, the size of the platform and the height of the platform. Mobile scaffolds should only be used on hard level surfaces. Screw jacks may be used, but only for height adjustment. Always follow the manufacturer's allowable loads for the casters, scaffold components and platforms, along with recommended bracing, to ensure a rigid and structurally sound tower.

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