

13.2: Personnel Platforms

Personnel Platforms

Design criteria

The personnel platform and suspension system shall be designed by a qualified engineer or a qualified person competent in structural design.

The suspension system shall be designed to minimize tipping of the platform due to movement of employees occupying the platform.

The personnel platform itself, except the guardrail system and personnel fall arrest system anchorages, shall be capable of supporting, without failure, its own weight and at least five times the maximum intended load. Criteria for guardrail systems and personal fall arrest system anchorages are contained in Subpart M, Fall Protection.

Platform specifications

Guardrails

Each personnel platform shall be equipped with a guardrail system which meets the requirements of Subpart M, and shall be enclosed at least from the toeboard to mid-rail with either solid construction or expanded metal having openings no greater than ½ inch. A grab rail shall be installed inside the entire perimeter of the personnel platform.

Access gates

Access gates, if installed, shall not swing outward during hoisting. Access gates, including sliding or folding gates, shall be equipped with a restraining device to prevent accidental opening. Headroom shall be provided which allows employees to stand upright in the platform.

Protection from falling objects

In addition to the use of hard hats, employees shall be protected by overhead protection on the personnel platform when employees are exposed to falling objects.

Rough edges

All rough edges exposed to contact by employees shall be surfaced or smoothed in order to prevent injury to employees from punctures or lacerations.

Welding

All welding of the personnel platform and its components shall be performed by a qualified welder familiar with the weld grades, types, and material specified in the platform design.

Platform marking

The personnel platform shall be conspicuously posted with a plate or other permanent marking which indicates the weight of the platform, and its rated load capacity or maximum intended load.

Load capacity

The personnel platform shall not be loaded in excess of its rated load capacity. When a personnel platform does not have a rated load capacity, then the personnel platform shall not be loaded in excess of its maximum intended load.

Number of employees

The number of employees occupying the personnel platform shall not exceed the number required for the work being performed.

Platform use

Personnel platforms shall be used only for employees, their tools and the materials necessary to do their work, and shall not be used to hoist only materials or tools when not hoisting personnel.

Securing of materials and tools

Materials and tools for use during a personnel lift shall be secured to prevent displacement. Materials and tools for use during a personnel lift shall be evenly distributed within the confines of the platform while the platform is suspended.

Personnel Platforms - Rigging

Wire Rope

When a wire rope bridle is used to connect the personnel platform to the load line, each bridle leg shall be connected to a master link or shackle in such a manner to ensure that the load is evenly divided among the bridle legs.

Hooks

Hooks on overhaul ball assemblies, lower load blocks, or other attachment assemblies shall be of a type that can be closed and locked, eliminating the hook throat opening. Alternatively, an alloy anchor type shackle with a bolt, nut and retaining pin may be used.

Component rating

Wire rope, shackles, rings, master links, and other rigging hardware must be capable of supporting, without failure, at least five times the maximum intended load applied or transmitted to that component. Where rotation resistant rope is used, the slings shall be capable of supporting without failure at least ten times the maximum intended load. All eyes in wire rope slings shall be fabricated with thimbles.

Bridles

Bridles and associated rigging for attaching the personnel platform to the hoist line shall be used only for the platform and the necessary employees, their tools and the materials necessary to do their work and shall not be used for any other purpose when not hoisting personnel.

Trial Lift

A trial lift with the unoccupied personnel platform loaded at least to the anticipated lift weight shall be made from ground level, or any other location where employees will enter the platform to each location at which the personnel platform is to be hoisted and positioned.

This trial lift shall be performed immediately prior to placing personnel on the platform. The operator shall determine that all systems, controls and safety devices are activated and functioning properly; that no interferences exist, and that all configurations necessary to reach those work locations will allow the operator to remain under the 50 percent limit of the hoist's rated capacity. Materials and tools to be used during the actual lift can be loaded in the platform for the trial lift. A single trial lift may be performed at one time for all locations that are to be reached from a single set up position.

The trial lift shall be repeated prior to hoisting employees whenever the crane or derrick is moved and set up in a new location or returned to a previously used location. Additionally, the trial lift shall be repeated when the lift route is changed unless the operator determines that the route change is not significant (i.e. the route change would not affect the safety of hoisted employees).

After the trial lift, and just prior to hoisting personnel, the platform shall be hoisted a few inches and inspected to ensure that it is secure and properly balanced. Employees shall not be hoisted unless the following conditions are determined to exist:

1. Hoist ropes shall be free of kinks.
2. Multiple part lines shall not be twisted around each other.
3. The primary attachment shall be centered over the platform.
4. The hoisting system shall be inspected if the load rope is slack to ensure all ropes are properly seated on drums and in sheaves.

Visual inspection

A visual inspection of the crane or derrick, rigging, personnel platform, and the crane or derrick base support, or ground, shall be conducted by a competent person immediately after the trial lift to determine whether the testing has exposed any defect or produced any adverse effect upon any component or structure. Any defects found during inspections which create a safety hazard shall be corrected before hoisting personnel.

Proof tested

At each job site, prior to hoisting employees on the personnel platform, and after any repair or modification, the platform and rigging shall be **proof tested to 125 percent** of the platform's rated capacity by holding it in a suspended position for five minutes with the test load evenly distributed on the platform (this may be done concurrently with the trial lift). After proof testing, a competent person shall inspect the platform and rigging. Any deficiencies found shall be corrected and another proof test shall be conducted. Personnel hoisting shall not be conducted until the proof testing requirements are satisfied.

Safe Work Practices

General rules

Employees shall keep all parts of the body inside the platform during raising, lowering, and positioning. This provision does not apply to an occupant of the platform performing the duties of a signal person.

Before employees exit or enter a hoisted personnel platform that is not landed, the platform shall be secured to the structure where the work is to be performed, unless securing to the structure creates an unsafe situation. Tag lines shall be used unless their use creates an unsafe condition.

The crane or derrick operator shall remain at the controls at all times when the crane engine is running and the platform is occupied.

Hoisting of employees

Hoisting of employees shall be promptly discontinued upon indication of any dangerous weather conditions or other impending danger.

Employees being hoisted shall remain in continuous sight of and in direct communication with the operator or signal person. In those situations where direct visual contact with the operator is not possible, and the use of a signal person would create a greater hazard for the person, direct communication alone such as by radio may be used.

Body belt/harness system

Except over water, employees occupying the personnel platform shall use a body belt/harness system with lanyard appropriately attached to the lower load block or overhaul ball, or to a structural member within the personnel platform capable of supporting a fall impact for employees using the anchorage. When working over water, life preservers shall be worn and ring buoys and a lifesaving skiff shall be immediately available. See 1926.106.

Hoisting of employees

No lifts shall be made on another of the crane's or derrick's loadlines while personnel are suspended on a platform. Hoisting of employees while the crane is traveling is prohibited, except for portal, tower and locomotive cranes, or where the employer demonstrates that there is no less hazardous way to perform the work.

Required meeting

A meeting attended by the crane or derrick operator, signal persons (if necessary for the lift), employees to be lifted, and the person responsible for the task to be performed shall be held to review the appropriate requirements of this section and the procedures to be followed.

This meeting shall be held prior to the trial lift at each new work location, and shall be repeated for any employees newly assigned to the operation.

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