

WAC 296-155-54800 Design of platforms and suspension systems.

(1) Employers that manufacture personnel platforms and/or their suspension systems must be designed, constructed and tested according to ASME B30.23-2005, Personnel Lifting Systems. The design and manufacturer's specifications must be made by a registered professional engineer. Personnel platforms manufactured prior to the effective of this section must comply with ASME B30.23-1998.

(2) Only the crane/derrick manufacturer may approve the design and installation procedures for platform mounting attachment points on lattice type boom cranes and lattice type boom extensions. The design and installation procedures, for platform mounting attachment points on other types of cranes/derricks must be approved by their manufacturer or an RPE. All approvals must be in writing.

(3) Platform mounting attachments on the crane/derrick must be designed to protect against disengagement during lifting operation.

(4) The system used to connect the personnel platform to the equipment must allow the platform to remain within 10 degrees of level, regardless of boom angle.

(5) The suspension system must be designed to minimize tipping of the platform due to movement of employees occupying the platform.

(6) The personnel platform itself (excluding the guardrail system and personal fall arrest system anchorages), must be capable of supporting, without failure, its own weight and at least 5 times the maximum intended load.

(7) The personnel platform must be equipped with a guardrail system which meets the requirements of Part C-1 of this chapter, and must be enclosed at least from the toeboard to mid-rail with either solid construction material or expanded metal having openings no greater than one-half inch (1.27 cm). Points to which personal fall arrest systems are attached must meet the anchorage requirements in Part C-1 of this chapter.

(8) You must install a grab rail inside the entire perimeter of the personnel platform except for access gates/doors.

(9) **Access gates/doors.** If installed, access gates/doors of all types (including swinging, sliding, folding, or other types) must:

(a) Not swing outward. If due to the size of the personnel platform, such as a one-person platform, it is infeasible for the door to swing inward and allow safe entry for the platform occupant, then the access gate/door may swing outward.

(b) Be equipped with a device that prevents accidental opening.

(10) Headroom must be sufficient to allow employees to stand upright in the platform.

(11) In addition to the use of hard hats, employees must be protected by overhead protection on the personnel platform when employees are exposed to falling objects. The platform overhead protection must not obscure the view of the operator or platform occupants (such as wire mesh that has up to one-half inch openings), unless full protection is necessary.

(12) All edges exposed to employee contact must be smooth enough to prevent injury.

(13) An identification plate must be located on the platform. The location must protect against damage and allow easy viewing from both interior (while hoisted) and exterior (while not hoisted) of the platform.

(14) The inspection plate must display the following information:

(a) Manufacturer's name and address;

(b) Platform rating in terms of weight and personnel;

- (c) Platform identification number;
- (d) Suspension system description for suspended platforms, or the intended crane/derrick manufacturer and model for boom attached platforms;
- (e) Weight of the empty platform and its suspension system;
- (f) Date the platform was manufactured;
- (g) Certification of compliance to the design, construction, and testing requirements of ASME B30.23-2005, Personnel Lifting Systems;
- (h) Listing of any unique operational environments for which the platform has been designed.

(15) For suspended platforms, the suspension system must be sized by the platform manufacturer, and its installed sling angle established, so as not to cause damage to the platform. Suspension systems must comply with the following:

- (a) Hooks and other detachable devices.
 - (i) Hooks used in the connection between the hoist line and the personnel platform (including hooks on overhaul ball assemblies, lower load blocks, bridle legs, or other attachment assemblies or components) must be:
 - (A) Of a type that can be closed and locked, eliminating the throat opening.
 - (B) Closed and locked when attached.
 - (ii) Shackles used in place of hooks must be of the alloy anchor type, with either:
 - (A) A bolt, nut and retaining pin, in place; or
 - (B) Of the screw type, with the screw pin secured from accidental removal.
 - (iii) Where other detachable devices are used, they must be of the type that can be closed and locked to the same extent as the devices addressed in subsection (a) of this section. You must close and lock devices when attached.
- (b) When a rope bridle is used to suspend the personnel platform, each bridle leg must be connected to a master link or shackle (see (a) of this subsection) in a manner that ensures that the load is evenly divided among the bridle legs.
- (c) Eyes in wire rope slings shall be fabricated with thimbles.
- (d) Wire rope sling suspension systems with pored socket end connections, if used, must be designed in accordance with the manufacturer's or qualified person's application instructions.
- (e) All sling suspension systems must utilize a master link for attachment to the crane/derrick hook or bolt type shackle with cotter pin.
- (f) You must not use synthetic webbing or natural or synthetic fiber rope slings for suspension systems.
- (g) Suspension system legs must be designed and sized according to ASME B30.23-2005.
- (h) Wire rope sling suspension systems must have each leg of the system permanently marked with the rated load of the leg. The master link in the system must be permanently marked with the suspension system's rated load and identification as a personnel lifting platform suspension component.
- (i) Rigging hardware (including wire rope, shackles, rings, master links, and other rigging hardware) and hooks must be capable of supporting, without failure, at least 5 times the maximum intended load applied or transmitted to that component. A sling made from rotation resistant rope is prohibited.

(j) You must use bridles and associated rigging for suspending the personnel platform only for the platform and the necessary employees, their tools and materials necessary to do their work, and you must not use it for any other purpose when not hoisting personnel.

(16) Overhead protection, when provided for a platform, must allow for a clear view of the crane/derrick components directly overhead, from any position in the platform. Any openings designed in the overhead protection must not allow a sphere of greater than 0.5 in (13 mm) to pass through.

(17) All welding of the personnel platform and its components must be performed by a certified welder familiar with the weld grades, types and material specified in the platform design.

(18) Bolted connections of load sustaining members or components of the platform must be in accordance with the AISC Specification for Structural Joints Using ASTM A 325 or A 490 Bolts.

(19) You must provide a weatherproof compartment suitable for storage of the operator's manual and assorted other documents, or a weatherproof placard displaying the operator's manual, and readable from the platform, when motion controls that are operational from the platform are installed.

(20) Motion controls, if installed on the platform, must:

(a) Be clearly identified as to their function;

(b) Be protected from inadvertent actuation;

(c) Be inside the platform and readily accessible to the operator;

(d) When possible be oriented and move in the approximate direction of the function that they control;

(e) Return to their neutral position and stop all motion when released.

(21) Boom motion controls, if provided, must additionally:

(a) Include a control that must be continuously activated for controls to be operational;

(b) Include an emergency stop control that does not require continuous actuation for a stop condition;

(c) Have motion controls, accessible at ground level, that can override platform controls.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 16-09-085, § 296-155-54800, filed 4/19/16, effective 5/20/16. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.440, 49.17.060, and 29 C.F.R. 1926, Subpart CC. WSR 12-01-086, § 296-155-54800, filed 12/20/11, effective 2/1/12.]