

WAC 296-155-54305 Derricks—Construction. (1) Guy derricks.

(a) The minimum number of guys must be 6, with equal spacing, except where a qualified person or derrick manufacturer approves variations from these requirements and revises the rated capacity to compensate for such variations.

(b) You must not use guy derricks unless you have the following guy information from the manufacturer or a qualified person, when not available from the manufacturer:

(i) The number of guys.

(ii) The spacing around the mast.

(iii) The size, grade, and construction of rope to be used for each guy.

(c) For guy derricks manufactured after December 18, 1970, in addition to the information required in subsection (b) of this section, you must have the following guy information from the manufacturer or a qualified person, when not available from the manufacturer:

(i) The amount of initial sag or tension.

(ii) The amount of tension in guy line rope at anchor.

(d) The mast base must permit the mast to rotate freely with allowance for slight tilting of the mast caused by guy slack.

(e) The mast cap must:

(i) Permit the mast to rotate freely.

(ii) Withstand tilting and cramping caused by the guy loads.

(iii) Be secured to the mast to prevent disengagement during erection.

(iv) Be provided with means for attaching guy ropes.

(2) Stiffleg derricks.

(a) The mast must be supported in the vertical position by at least two stifflegs; one end of each must be connected to the top of the mast and the other end securely anchored.

(b) The stifflegs must be capable of withstanding the loads imposed at any point of operation within the load chart range.

(c) The mast base must:

(i) Permit the mast to rotate freely (when necessary).

(ii) Permit deflection of the mast without binding.

(d) You must prevent the mast from lifting out of its socket when the mast is in tension.

(e) The stiffleg connecting member at the top of the mast must:

(i) Permit the mast to rotate freely (when necessary).

(ii) Withstand the loads imposed by the action of the stifflegs.

(iii) Be secured so as to oppose separating forces.

(3) Gin pole derricks.

(a) Guy lines must be sized and spaced so as to make the gin pole stable in both boomed and vertical positions.

Exception: Where the size and/or spacing of guy lines do not result in the gin pole being stable in both boomed and vertical positions, you must ensure that the derrick is not used in an unstable position.

(b) The base of the gin pole must permit movement of the pole (when necessary).

(c) The gin pole must be anchored at the base against horizontal forces (when such forces are present).

(4) Chicago boom derricks. The fittings for stepping the boom and for attaching the topping lift must be arranged to:

(a) Permit the derrick to swing at all permitted operating radii and mounting heights between fittings.

(b) Accommodate attachment to the upright member of the host structure.

(c) Withstand the forces applied when configured and operated in accordance with the manufacturer's/builder's procedures and within its rated capacity.

(d) Prevent the boom or topping lift from lifting out under tensile forces.

(5) **Anchoring and guying.**

(a) You must use load anchoring data developed by the manufacturer or a registered professional engineer.

(b) Guy derricks.

(i) You must anchor the mast base per the manufacturer's recommendations. In the absence of the manufacturer's recommendations you must use an RPSE.

(ii) The guys must be secured to the ground or other firm anchorage.

(iii) The anchorage and guying must be designed to withstand maximum horizontal and vertical forces encountered when operating within rated capacity with the particular guy slope and spacing specified for the application.

(c) Stiffleg derricks.

(i) The mast base and stifflegs must be anchored per the manufacturer's recommendations. In the absence of the manufacturer's recommendations you must use an RPSE.

(ii) The mast base and stifflegs must be designed to withstand maximum horizontal and vertical forces encountered when operating within rated capacity with the particular stiffleg spacing and slope specified for the application.

(d) Gin pole derricks.

(i) Side guys must be located so that they do not usurp the topping-lifted load;

(ii) Side guys must be evenly played out or in depending on their position relative to the boom foot pivot.

(6) **Swingers and hoists.**

(a) The boom, slewing mechanism, and hoists must be suitable for the derrick work intended and must be anchored to prevent displacement from the imposed loads.

(b) Base-mounted drum hoists. Base-mounted drum hoists must meet the requirements of ASME B30.7-2006, including the following:

(i) Load ratings must be the manufacturer's recommended single rope pull in pounds (kilograms), at a specified rate of speed, on a given size drum, and prescribed number of layers of rope.

(ii) **Markings.** Hoists are to be marked with the following identification for each drum:

(A) Load rating;

(B) Drum size consisting of barrel diameter, barrel length, and flange diameter;

(C) Rope size(s);

(D) Rope speed in feet per minute (meters per second);

(E) Rated power supply.

(iii) Attachments and anchorages for hoist bases must provide mounting of the hoist and must be capable of withstanding loads imposed by the hoist under operating conditions. The weight of the hoist and loads imposed by the load ropes must be provided for.

(iv) **Location of drum hoists.** Drum hoists must be located in a manner that provides proper rope spooling on the drums.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 16-09-085, § 296-155-54305, 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, § 296-155-54305, filed 12/20/11, effective 2/1/12.]