

**WAC 296-96-24163 Suspension means.** (1) When a chassis is suspended from a driving machine by a wire rope, a single method of suspension may be used. The suspension means shall be any one of the following:

(a) Steel elevator wire rope;  
(b) Steel aircraft cable; or  
(c) Roller chain conforming to ANSI transmission roller chains and sprocket teeth.

(2) Steel tapes shall not be used as a suspension method.

(3) The minimum diameter of hoist ropes or cables shall be 1/4 in. galvanized elevator wire rope and 3/16 in. aircraft cable.

(4) Factor of safety:

(a) The minimum factor of safety for a suspension method shall be not less than 8 based upon the rope tension while elevating a car carrying its rated load.

(b) In no case, shall the rated breaking strength of the rope be less than 4,000 lbs.

(5) The contact arc of a wire rope on a traction sheave shall be sufficient to produce adequate traction under all load conditions.

(6) All wire ropes anchored to a winding drum shall have at least one full turn of rope on the drum when the car or counterweight reaches its over-travel limit.

(7) The winding drum ends of car and counterweight wire ropes shall be secured by:

(a) Clamps on the inside of the drum;

(b) Return loop;

(c) Properly made individual tapered babbitted sockets; or

(d) Properly attached fittings recommended by wire rope manufacturers.

U-bolt type clamps shall not be used.

(8) The ends of wire ropes shall be fastened to cars or counterweights by:

(a) Return loop; or

(b) Properly made individual tapered babbitted sockets that conform to ASME A17.1/CSA B44 requirements. (The diameter of the hole in the small end of the socket shall not exceed the nominal diameter of the rope by more than 3/32 in.); or properly attached fittings recommended by wire rope manufacturers.

U-bolt type clamps shall not be used.

(9) Rope repair:

(a) Car and counterweight wire ropes shall not be lengthened or repaired by splicing.

(b) If a single wire rope in a set is worn or damaged and needs to be replaced, the entire set shall be replaced.

[Statutory Authority: Chapter 70.87 RCW. WSR 18-18-070, § 296-96-24163, filed 8/31/18, effective 10/1/18.]