

**WAC 296-96-24264 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 may 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 is 5 based upon the rope tension while elevating the elevator 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 a 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;

(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

(c) 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.

(10) A metal or plastic data tag shall be securely attached to one of the wire rope fastenings each time the ropes are replaced or reshackled. The data tag shall include:

(a) The diameter of the ropes in inches; and

(b) The manufacturer's rated breaking strength.

[Statutory Authority: Chapter 70.87 RCW. WSR 18-18-070, § 296-96-24264, filed 8/31/18, effective 10/1/18.]