

**WAC 296-24-23515 Hoisting equipment. (1) Sheaves.**

(a) You must ensure that sheave grooves are smooth and free from surface defects which could cause rope damage.

(b) You must provide sheaves carrying ropes which can be momentarily unloaded with close-fitting guards or other suitable devices to guide the rope back into the groove when the load is applied again.

(c) You must ensure that the sheaves in the bottom block are equipped with close-fitting guards that will prevent ropes from becoming fouled when the block is laying on the ground with ropes loose.

(d) You must ensure that pockets and flanges of sheaves used with hoist chains are of such dimensions that the chain does not catch or bind during operation.

(e) You must ensure that all running sheaves are equipped with means for lubrication. Permanently lubricated, sealed and/or shielded bearings meet this requirement.

**(2) Ropes.**

(a) In using hoisting ropes, you must follow the crane manufacturer's recommendation. The rated load divided by the number of parts of rope must not exceed 20% of the nominal breaking strength of the rope.

(b) You must ensure that socketing is done in the manner specified by the manufacturer of the assembly.

(c) You must secure rope to the drum as follows:

(i) No less than two wraps of rope must remain on the drum when the hook is in its extreme low position.

(ii) Rope end must be anchored by a clamp securely attached to the drum, or by a socket arrangement approved by the crane or rope manufacturer.

(d) You must ensure that rope clips attached with U-bolts have the U-bolts on the dead or short end of the rope. Spacing and number of all types of clips must be in accordance with (2)(e) of this section. Clips must be drop-forged steel in all sizes manufactured commercially. When a newly installed rope has been in operation for an hour, all nuts on the clip bolts must be retightened.

(e)

Diameter of Rope	Number of Clips Required	Space Between Clips
1 1/2 inch	8	10 inches
1 3/8 inch	7	9 inches
1 1/4 inch	6	8 inches
1 1/8 inch	5	7 inches
1 inch	5	6 inches
7/8 inch	5	5 1/4 inches
3/4 inch	5	4 1/2 inches
3/8 to 5/8 inch	4	3 inches

(f) You must apply swaged or compressed fittings as recommended by the rope or crane manufacturer.

(g) Wherever exposed to temperatures, at which fiber cores would be damaged, you must use rope having an independent wire-rope or wire-strand core, or other temperature-damage resistant core.

(h) You must ensure that replacement rope is the same size, grade, and construction as the original rope furnished by the crane manufacturer, unless otherwise recommended by a wire rope manufacturer due to actual working condition requirements.

(3) **Equalizers.** You must ensure that the tension in the parts is equalized if a load is supported by more than one part of rope.

(4) **Hooks.** You must ensure that hooks meet the manufacturer's recommendations and are not overloaded. Safety latch-type hooks must be used or the hook must be moused.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 15-24-100, § 296-24-23515, filed 12/1/15, effective 1/5/16. Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. WSR 80-17-015 (Order 80-21), § 296-24-23515, filed 11/13/80. Statutory Authority: RCW 49.17.040, 49.17.150, and 49.17.240. WSR 79-08-115 (Order 79-9), § 296-24-23515, filed 7/31/79; Order 73-5, § 296-24-23515, filed 5/9/73 and Order 73-4, § 296-24-23515, filed 5/7/73.]