SAFETY STARTS — WITH ME —

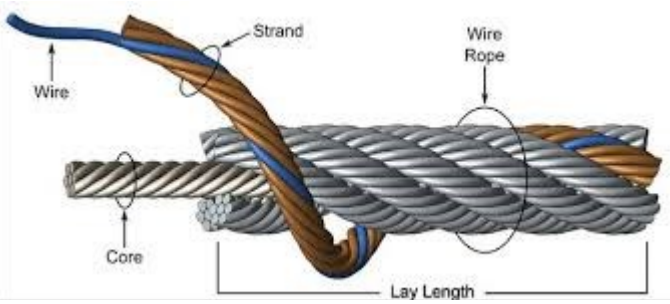
gbca SAFETY

GBCA SAFETY TOOLBOX TALK

SUSPENDED SCAFFOLDS — SUSPENSION ROPES

This toolbox talk covers OSHA's requirements for suspension ropes used with two-point (swing stage) scaffolds. Remember, competent persons and trained workers are critical to safety on suspended scaffolds, so be sure to carefully assess the skills of personnel setting up and working on suspended scaffolds.

- Ropes must be inspected for defects by a competent person prior to each workshift, and after every occurrence which could affect a rope's integrity. **[29 CFR 1926.451(d)(10)]**
- Suspension ropes supporting adjustable suspension scaffolds must have a diameter large enough to permit proper functioning of brake and hoist mechanisms. **[29 CFR 1926.451(f)(10)]**



Components of a Wire Suspension Rope

- The use of repaired wire rope as suspension rope is prohibited. **[29 CFR 1926.451(d)(7)]**
- Suspension ropes are to be shielded from heat -producing processes. When acids or other corrosive substances are used on a scaffold, the ropes shall be shielded, treated to protect against the corrosive substances, or shall be of a material that will not be damaged by the substances. **[29 CFR 1926.451(f)(11)]**
- Wire suspension ropes must not be joined together except through the use of **eye splice thimbles** connected with shackles or coverplates and bolts. **[29 CFR 1926.451(d)(8)]**
- The load end of wire suspension ropes must be equipped with proper-size thimbles, and secured by eyesplicing or equivalent means. **[29 CFR 1926.451(d)(9)]**

This wire rope has a thimble secured by an eyesplice, as required on the load end of suspension ropes.

- Swaged attachments or spliced eyes on wire suspension ropes may not be used unless they are made by the manufacturer or a qualified person. **[29 CFR 1926.451(d)(11)]**

Replace ropes when any of the following conditions exist (continued on next page):

- Any physical damage which impairs the function and strength of the rope. **[29 CFR 1926.451(d)(10)(i)]**

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SUSPENDED SCAFFOLDS — SUSPENSION ROPES (P. 2)

Ropes should be replaced when (continued),

- Kinks that might impair the tracking or wrapping of the rope around the drum or sheave of the hoist.
  [29 CFR 1926.451(d)(10)(ii)]
- Six randomly distributed wires are broken in one rope lay, or three broken wires in one strand in one rope lay.
  [29 CFR 1926.451(d)(10)(iii)]
- Loss of more than one-third of the original diameter of the outside wires due to abrasion, corrosion, scrubbing, flattening, or peening.
  [29 CFR 1926.451(d)(10)(iv)]
- Heat damage caused by a torch, or any damage caused by contact with electrical wires. **[29 CFR 1926.451(d)(10)(v)]**
- Evidence that the secondary brake has been activated during an overspeed condition and has engaged the suspension rope.
  [29 CFR 1926.451(d)(10)(vi)]

The construction adhesive on this wire rope could interfere with the operation of the hoist brakes.

This wire rope has "bird-caged" and become unsuitable for use.

The constant rotation of this rope as it ran through the hoist has caused the free end to twist and split.

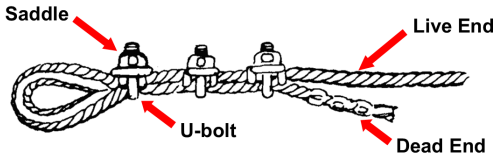
Keep in mind the following when wire rope clips are used on suspension scaffolds:

- There must be a minimum of **3 clips installed**, with the clips a minimum of 6 rope diameters apart. **[29 CFR 1926.451(d)(12)(i)]**
- Clips must be installed according to the manufacturer's recommendations.
  [29 CFR 1926.451(d)(12)(ii)]
- Clips must be retightened to the manufacturer's recommendations after the initial loading. **[29 CFR 1926.451(d)(12)(iii)]**
- Clips are to be inspected and retightened to the manufacturer's recommendations at the start of each subsequent workshift.
  [29 CFR 1926.451(d)(12)(iv)]
- U-bolt clips may not be used at the point of suspension for any scaffold hoist.
  [29 CFR 1926.451(d)(12)(v)]
- When U-bolt clips are used, the U-bolt must be placed over the dead end of the rope, and the saddle must be placed over the live end of the rope.
  [29 CFR 1926.451(d)(12)(vi)]

INSTALL WIRE ROPE CLIPS CORRECTLY

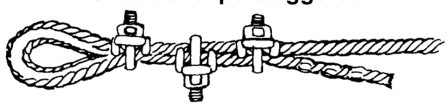
RIGHT

U-bolt of all clips on dead end of rope

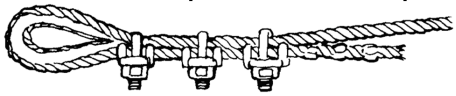


WRONG

U-bolt of clips staggered



U-bolt of all clips on live end of rope



Fewer than 3 clips

GBCA SAFETY TOOLBOX TALK ■ SIGN-IN SHEET

TOOLBOX TALK TOPIC: Suspended Scaffolds - Suspension Ropes

EMPLOYER: **PROJECT:**

PRESENTER: **DATE:**

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NOTES AND QUESTIONS:

PRESENTER SIGNATURE (TO VERIFY ABOVE INFO):