



# Rigging – Ropes, Cordage, and Chains

**If you use rope, cordage, or chains, it is important to understand how to use and properly care for these materials. Ropes and cordage are used to operate the rigging mechanisms and to hoist materials and/or equipment to overhead platforms.**



No matter what it is made of, it still requires maintenance and safe operation. Chains are used to support, lift, and attach materials and equipment such as curtains, rigging equipment, lighting, etc.

## Fiber Rope

1. Make sure the rope is aligned so it doesn't abrade on metal housing or other metal parts of the rigging system.
2. Inspect the rope prior to use. Look for signs of wear, crushing, fibers shedding, rips in the covering jacket, breaking of the internal core, parts of the rope becoming unbraided, and breaking of the shell.
3. Smell the rope to check for rope rot.
4. Never drag a rope as this action damages the outer fibers and leads to the eventual deterioration of the rope's overall strength.
5. Avoid kinking the ropes. This strains the rope and overstresses the fibers.
6. Never knot two ropes together. Talk to your supervisor or instructor if rope splicing is required. Splicing is forming a semi-permanent joint by partly untwisting then interweaving the rope's strands.
7. Never allow rope to freeze.
8. Always store the rope away from heat, moisture, chemicals, rodents, and sunlight.
9. Use gloves to protect your hands from splinter-like fibers.
10. Check with your supervisor or instructor when a rope is shedding an excessive amount of fibers to see if there is a problem with the process or you are required to use a respirator during that activity.

## Wire Rope

1. Inspect the length of the rope for signs of:
  - a. Friction or obstructions
  - b. Wear
  - c. Kinking
  - d. Deformation
  - e. Broken wires – replace the rope if even one wire is broken.
2. Report damaged wire rope to your supervisor immediately.
3. Use gloves to protect your hands from broken wires.
4. Apply the U-bolt over the dead side of the wire rope, and tighten the nuts on the live side. "Never saddle a dead horse."
5. Use a thimble at the loop to protect the wire rope from wear.

## **Chains**

1. Ask your supervisor or instructor if you do not know which type of chain to use for the task at hand.
2. Inspect the chain prior to each use for wear, elongated, and worn links.
3. Know the load capacity of the chain you are using. Never use the chain to carry an excessive load.
4. Never twist or knot the chain.
5. Take up slack slowly and make sure every link seats correctly.

*Talk to your supervisor if you have any questions about this information.*