

# Wire rope—Inspection

## Explain dangers

Damage from wear and tear can reduce rope strength and capacity, endangering workers who rely on the rope.

## Identify controls

Wire rope in continuous service should be checked daily during normal operation and inspected weekly. Rope that has not been used for a month should be inspected thoroughly.

There are warning signs to look for during inspection. Most of these warning signs indicate that the rope should be replaced.

### BROKEN WIRES

Occasional wire breaks are normal and not critical if they are well spaced. Broken wire ends should be removed. Replace rope if there are

- 6 or more broken wires in one lay
- 3 or more broken wires in one strand in one lay
- 3 or more broken wires in one lay in standing ropes.

### WORN AND ABRADED WIRES

Replace rope if outer wires

- become flat from friction (i.e., D-shaped)
- become shiny from wear, and
- wear exceeds 1/3 of the wire's diameter.

### ROPE STRETCH AND DECREASE IN DIAMETER

All ropes stretch slightly and decrease in diameter. Replace rope if wear on individual wires exceeds 1/3 of the diameter. Replace 6-strand rope if stretch exceeds 6 inches per 100 feet.

### CORROSION

Difficult to detect because it's inside the rope. Look for rust, discolouration, and pitting outside.

### CUTS/BURNS

Replace rope if any wires or strands are cut or burned. Damaged ends can be removed and seized. Otherwise rope must be replaced.

### BIRDCAGING

Look for strands opening up in cage-like clusters. Rope must be replaced.



### CORE PROTRUSION

Replace rope when inner core starts poking through strands.



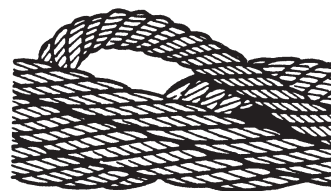
### KINKING

Kinks seriously reduce wire rope strength. Sections with kinks should be cut off. Otherwise rope must be discarded.



### HIGH STRANDING AND UNLAYING

These will cause the other strands to become overloaded. Replace the rope or renew the end connection to reset the rope lay.



## Demonstrate

Review wire rope in use on site. Ask your crew to inspect samples and arrange for repair or replacement as required.