

KEYWORDS: WIRE ; WIRE ROPE ; STRETCH ; INSPECTION

**10-15
MINUTES**

Topic: **Wire Rope Inspection**



IDEAS FOR YOUR TALK:

- *People remember facts better when they're interactive and visual: use a wire rope to illustrate or demonstrate your risk statements.*
- *People remember stories better than raw facts: think of a personal story that you can share.*
- *People structure thoughts to remember them: think of risks or defects that can occur with each component of a wire rope.*

Explain dangers:

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

Demonstrate:

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

3. CLOSING QUESTIONS:

- *Do you know of any damaged wire rope or equipment?*
- *Do you have questions on this subject, inspection or safe use?*
- *Are you aware of a risk on this jobsite that shouldn't be?*

1. SUGGESTED ENGAGEMENT QUESTIONS:

- Who has used a Wire Rope on this job?
- What is the main risk involved in using a Wire Rope?
- Has anyone heard of an incident or accident involving a Wire Rope Inspection?

2. TALKING POINTS:

- 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.
- **BROKEN WIRES:** Occasional wire breaks are normal and not critical if they are well spaced. Broken wire ends should be removed.
- **WORN AND ABRADED WIRES:** Replace rope if outer wires.
- **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, discoloration, 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.

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