

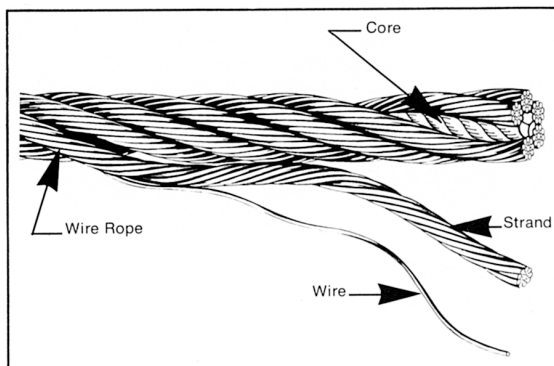
WIRE ROPE

Inspection

Wire rope in continuous service should be inspected daily before operation.

Damage from wear and tear can reduce rope strength and capacity.

During inspection, look for the following warning signs – most of them indicate that the rope should be replaced.



Broken wires

Replace rope if there are:

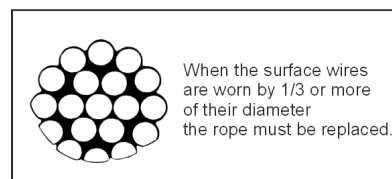
- 6 or more broken wires in one lay;
- 3 or more broken wires in one strand, in one lay;
- 3 or more broken wires in one lay in standing ropes.

Worn/abraded wires

Replace rope, if outer wires:

- become flat from friction;
- become shiny from wear;
- wear exceeds 1/3 of their diameter.

Enlarged View of Single Strand



Reduced diameter

Replace rope if wear on individual wires exceeds 1/3 of their diameter.

Stretch

Replace 6-strand rope if stretch reduces its diameter by more than 1/3.

Corrosion

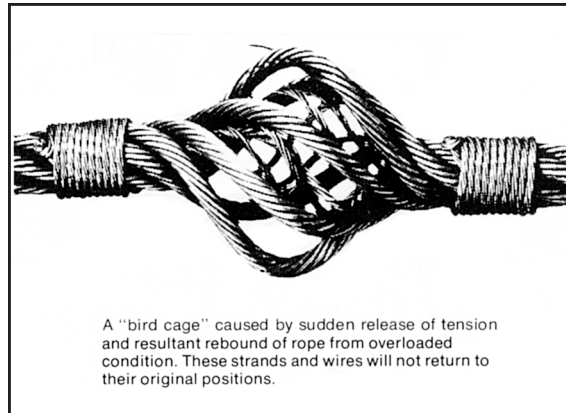
Difficult to detect because it's inside the rope. Look for rust, discoloration and pitting outside.

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.

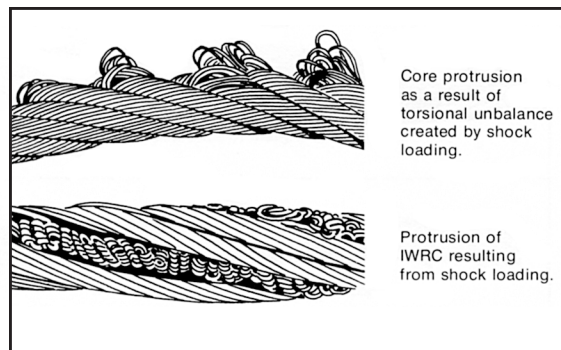
Bird caging

Look for strands opening up in cage-like clusters. If present, rope must be replaced.



Core protrusion

Replace rope when inner core starts poking through strands.



Kinks

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

[Instructor to review wire rope in use on site and to ask crew to inspect samples and arrange for repair or replacement, as required.]

You can find more information on WHSCC's programs and services on the internet at www.whsc.ca.

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