



Wire Rope Sling Inspection Field Checklist and Program Guide

The Bilco Group





Wire Rope Sling Inspection Field Checklist and Program Guide

1. Confirm Identification and Traceability

Every wire rope sling must have a legible identification tag. The tag should clearly indicate manufacturer, rated load, sling configuration, rope diameter, and number of legs where applicable.

If the tag is missing or unreadable, the sling should be removed from service immediately. Without identification, the capacity and inspection history cannot be verified. Cross-checking the tag against inspection records also helps confirm whether the sling is still within its intended service interval.

2. Lay Out and Clean the Sling

Inspection requires visibility. The sling should be laid out fully in a well-lit area. Dirt, grease, and debris should be removed so that wires and fittings are exposed.

Cleaning before inspection is not cosmetic. Contaminants hide broken wires, corrosion, and heat damage. Slings should be dry before lubrication. Applying lubricant to a wet sling traps moisture and accelerates internal corrosion.

3. Examine for Mechanical Damage

Using both sight and touch, inspectors should look for:

- Broken wires or clusters of broken wires
- Localized abrasion or scraping
- Kinks, crushing, and bird-caging
- Distortion that alters the rope structure

Broken wire thresholds vary by construction, but multiple broken wires within a single lay or strand are immediate removal indicators. Crushed or kinked slings lose structural balance and should not remain in service.



4. Evaluate Corrosion and Heat Effects

Corrosion is not limited to surface rust. Inspectors should look for pitting, wire binding, missing lubricant, and discoloration caused by heat exposure.

Light surface oxidation may be manageable. Severe corrosion that reduces cross-section or restricts wire movement is not. Heat damage often appears as discoloration or fused wires and warrants immediate removal.

5. Inspect End Attachments & Hardware

Hooks, thimbles, sleeves, and splices require close attention. Inspectors should check for:

- Cracks or deformation
- Excessive throat opening on hooks
- Worn bearing points
- Damaged or incomplete latches

End fittings often fail before the rope body, especially when loads are misaligned or shock loaded.

6. Check Pulled Splices & Sling Unbalance

Eye splices that have slipped, sleeves that show movement, or strands that have shifted indicate internal distress. Kinks caused by pulling the sling through its own loop permanently unbalance the rope. These conditions are not repairable.

7. Consider Hidden and Internal Damage

Not all damage is visible. Diameter reduction, changes in lay length, or unexplained stiffness can indicate internal corrosion or wire fatigue.

In these cases, removing the sling from service and consulting a qualified inspector is the responsible step. Advanced inspection methods can reveal internal damage long before surface indicators appear.



8. Document Findings Consistently

Inspection without documentation provides no continuity. Records should include sling identification, inspection date, inspector name, observed conditions, and disposition.

Consistent records make trends visible. They also support defensible decisions when slings are retired earlier than expected.

9. Remove and Dispose of Rejected Slings

Slings that fail inspection must be tagged clearly and rendered unusable. Cutting slings into sections and removing identification tags prevents accidental reuse. Disposal should follow local recycling or waste guidelines.



Turning Inspection Into a System, Not a Task

Most inspection programs fail for the same reason: they exist only now of inspection. Once the check is complete, the structure disappears. Strong programs extend beyond the act itself, creating continuity, context, and accountability over time.

Start With a Written Framework

An inspection program that lives only in people's heads erodes quickly. A written policy sets the baseline. It defines who inspects, how often inspections occur, what conditions trigger removal, and how findings are recorded. When expectations are documented, inspection stops being optional or interpretive and becomes repeatable.

Train for Understanding, Not Recognition

Effective training goes beyond identifying visible defects. Teams need to understand why certain damage matters and how small changes signal larger failures. When inspectors understand how wire rope degrades, they become more attentive to early warning signs that checklists alone do not capture.

Treat Storage and Handling as Part of Inspection

Inspection does not begin when a sling is laid out on the floor. It begins with how that sling is stored and handled every day. Moisture exposure, poor racking, tight coiling, and uncontrolled contact with sharp edges all shorten service life. Controlling these variables reduces how quickly damage develops and makes inspection outcomes more predictable.

Let Experience Guide Judgment

Standards define minimums, but judgment determines outcomes. Over time, slings reveal patterns in wear, distortion, and fatigue that no single inspection captures in isolation. Bilco Group's long-standing work alongside rigging teams has shown that the strongest inspection programs combine formal criteria with field awareness. Slings tell a story across their service life. Programs that pay attention to that story retire equipment earlier, avoid sudden failures, and operate with fewer surprises.