# WIRE ROPE INSPECTION CHECKLIST

Equipment identification | Inspect, document findings, and follow applicable removal-from-service criteria.

| EQUIPMENT / CRANE ID | ROPE FUNCTION / LOCATION | INSPECTION DATE |
|---|---|---|
| MANUFACTURER / ROPE TYPE | NOMINAL DIAMETER | INSPECTOR / QUALIFICATION |
| ROPE IDENTIFIER / SERIAL | HOURS / SERVICE HISTORY | SITE / WORK ORDER |

**RESULT KEY** S = Satisfactory U = Unsatisfactory N/A = Not applicable

## OVERALL ROPE CONDITION

| INSPECTION ITEM | WHAT TO CHECK | S | U | N/A |
|---|---|---|---|---|
| **Count broken wires** | Check active rope length, count broken wires by strand and lay; record locations. | [ ] | [ ] | [ ] |
| **Assess heat damage** | Check for discoloration, heat patterns, and damaged or missing lubrication. | [ ] | [ ] | [ ] |
| **Look for corrosion** | Inspect exposed surfaces for rust or pitting; assess internal areas where accessible. | [ ] | [ ] | [ ] |
| **Measure rope diameter** | Measure with a suitable caliper and compare against nominal and allowable limits. | [ ] | [ ] | [ ] |
| **Check geometrical distortion** | Look for kinks, birdcaging, and other permanent deformation. | [ ] | [ ] | [ ] |

## WEAR AND ABRASION

| INSPECTION ITEM | WHAT TO CHECK | S | U | N/A |
|---|---|---|---|---|
| **Evaluate wire profiles** | Look for flattened crowns, peening, and loss of wire cross-section. | [ ] | [ ] | [ ] |
| **Identify localized wear** | Note concentrated abrasion that may indicate sheave or drum problems. | [ ] | [ ] | [ ] |

## FATIGUE AND MECHANICAL DAMAGE

| INSPECTION ITEM | WHAT TO CHECK | S | U | N/A |
|---|---|---|---|---|
| **Monitor bending zones** | Check for clustered breaks near fittings and repeated bending points. | [ ] | [ ] | [ ] |
| **Check for compression** | Look for crushing, flattening, and ovalization. | [ ] | [ ] | [ ] |
| **Spot protruding elements** | Check for displaced or protruding wires or strands. | [ ] | [ ] | [ ] |

## END FITTINGS AND TERMINATIONS

| INSPECTION ITEM | WHAT TO CHECK | S | U | N/A |
|---|---|---|---|---|
| **Inspect connections** | Check swaged, socketed, and clipped terminations for cracks or distortion. | [ ] | [ ] | [ ] |
| **Check load-bearing thimbles** | Look for cracks, asymmetry, and contact-point wear. | [ ] | [ ] | [ ] |
| **Verify clip placement** | Where clips are permitted, verify installation against the approved specification. | [ ] | [ ] | [ ] |
| **Check for trapped moisture** | Inspect termination areas for corrosion and pitting. | [ ] | [ ] | [ ] |

## SHEAVES AND DRUMS (WHERE ACCESSIBLE)

| INSPECTION ITEM | WHAT TO CHECK | S | U | N/A |
|---|---|---|---|---|
| **Evaluate sheave grooves** | Check groove wear, ridges, damage, and cracking. | [ ] | [ ] | [ ] |
| **Analyze drum grooves** | Check smooth spooling and abnormal wear patterns. | [ ] | [ ] | [ ] |
| **Check alignment** | Look for rope rubbing against flanges or evidence of misalignment. | [ ] | [ ] | [ ] |

# DEFICIENCIES & DISPOSITION

Record each unsatisfactory item and the action taken. Attach additional records if needed.

| DEFECT LOCATION / INSPECTION ITEM / MEASUREMENTS |
| --- |
| |

| DEFICIENCY DESCRIPTION / PHOTO OR WORK ORDER REFERENCE |
| --- |
| |

| CORRECTIVE ACTION / RESPONSIBLE PERSON |
| --- |
| |

| REINSPECTION / RELEASE AUTHORIZATION |
| --- |
| |

## EQUIPMENT STATUS

[ ] No defects identified  [ ] Defects reported / evaluation required  [ ] Removed from service

| INSPECTOR NAME / SIGNATURE | DATE |
| --- | --- |
| | |
| SUPERVISOR / AUTHORIZED REVIEWER | DATE |
| | |

## IMPORTANT SAFETY NOTE

If damage or a potentially unsafe condition is found, stop use as required by the applicable equipment procedure, notify the responsible supervisor, and have the rope evaluated by a qualified person. Removal criteria vary by crane type, rope construction, duty, and governing standard. Do not apply a universal broken-wire count or diameter threshold. Follow manufacturer instructions and applicable OSHA/ASME requirements.

Adapted as an original CHG field-use checklist from the supplied Lexco Cable inspection topics. Not issued or endorsed by Lexco Cable, OSHA, or ASME.