

# Inspection and removal criteria for wire rope slings

Before using slings, inspect them to be sure they meet the requirements for that application.

## HOW OFTEN TO INSPECT

Both AMSE Standard B30.9 and OSHA require that wire ropes receive two types of inspections:

- 1. A DAILY VISUAL INSPECTION** The person handling the sling must do this each day and should check for major damage or deterioration that would weaken the sling and for obvious signs such as broken wires, kinks, crushing, broken attachments and severe corrosion.
- 2. ADDITIONAL INSPECTIONS AT REGULAR INTERVALS** These are based on frequency of sling use, severity of service conditions, the nature of the lifts and prior experience based on service life of slings used in similar circumstances. A designated person who has a working knowledge of wire rope must conduct these inspections.

Inspection shall be made at least annually and shall include a record of the inspection or of apparent conditions to provide the basis for a continuing evaluation. Inspection shall be conducted on the entire length of the sling, including splices, end attachments and fittings.

## HOW TO INSPECT

The following procedures are offered as a guide for conducting inspections:

1. Place the sling in a position that enables the inspector to access and see every part of the sling.
2. Clean off all dirt and grease with a wire brush or rags to reveal wires and fittings.
3. Examine the entire length of the sling thoroughly, especially the parts showing the most wear.
4. Pay special attention to fittings and end attachments and areas of the sling next to these fittings.
5. Find the most worn or damaged section of the sling and carefully check it against removal criteria.
6. Label or identify all slings you've inspected.
7. Keep records of all inspections, including dates and conditions of slings.
8. Immediately destroy all slings you've rejected.
9. Store slings you want to reuse in a safe place away from damaging weather, heat and dirt.

## WHEN TO REPLACE YOUR WIRE ROPE SLING

According to ASME B30.9, you must remove a wire rope sling from service immediately if any of the following conditions are present:

- 1. RATED CAPACITY TAG** Missing or illegible sling identification tag.
- 2. BROKEN WIRES** For single part body slings and strand laid grommets: 5 broken wires in one strand in one rope lay or 10 broken wires in all strands in one rope lay. For cable-laid, cable-laid grommets and multi-part slings, use the following guidelines.

### ALLOWABLE BROKEN WIRES

Cable-laid grommet	20 per lay
Less than 8-part braid	20 per braid
8-part braid or more	40 per braid

- 3. METAL LOSS** Wear or scraping of one-third the original diameter of the outside individual wires.
- 4. DISTORTION** Such as kinking, crushing or bird-caging. Look closely for wires or strands that may have been pushed out of their original positions in the rope.
- 5. HEAT DAMAGE** Any metallic discoloration or loss of internal lubricant caused by heat exposure.
- 6. DAMAGED END ATTACHMENTS** Cracked, bent or broken fittings. Also, any evidence that eye splices have slipped, or tucked strands have moved.
- 7. BENT HOOKS** No more than 15 percent over the normal throat openings (measured at the narrowest point) or twisting exceeding 10 degrees is permitted.
- 8. METAL CORROSION** Severe corrosion of the rope or end attachments that has caused pitting or binding of wires. Light rusting doesn't normally affect a sling's strength.

## HOW TO DISPOSE OF A REJECTED WIRE ROPE SLING

Once the inspector has determined a sling is no longer usable, he should tag it immediately, "Do Not Use." The sling should then be destroyed as soon as possible by cutting the eye and fittings from the rope. This will prevent accidental reuse of the sling.