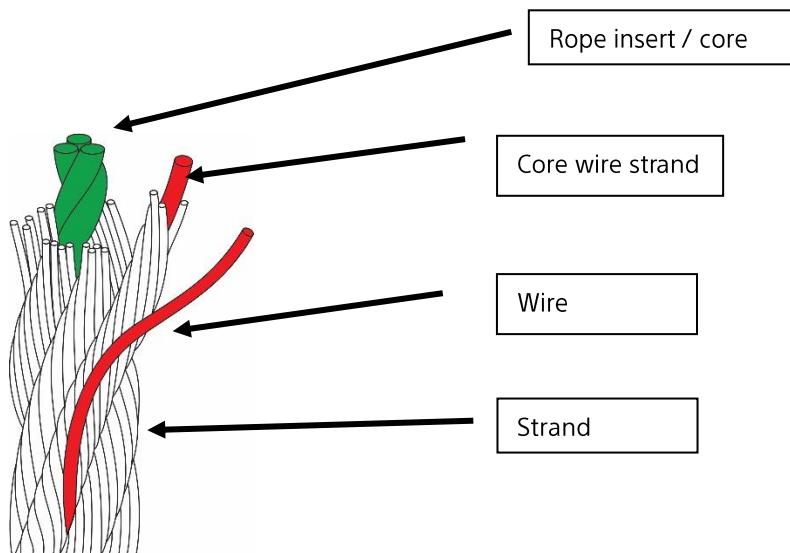


Checklist

At what time are steel wire rope slings ready for discarding?

They carry loads of several tons and have to withstand a lot: Steel wire rope slings are part of the basic equipment when loads need to be lifted and transported in the workplace. They come in different variants, depending on the design, type of core and finishing and end connection.



This is how a steel wire rope is constructed.

Steel wire rope slings have been a popular and reliable slinging equipment for generations.

What they all have in common is that regular inspections carried out by experts are mandatory. The inspection intervals vary depending on the conditions of use. The inspection intervals are determined by the company in accordance with the operating regulations. The inspection intervals are documented in the preceding risk assessment. Always ensure that the deadlines are strictly adhered to! Defects in the ropes can lead to serious accidents.

Apart from inspections by experts, users must also carry out regular visual inspections before each use. Especially due to soiling, damage might not be obvious at first glance.

If you have even the slightest doubt about the safety of a rope, put it out of service immediately and have it inspected by a expert.

There is an industry standard that exists to provide the end-user with guidelines for inspection and criteria that warrants removal from service: **OSHA Standard 1926.1413**. If you discover one of the criteria below on one of your ropes, stop using this rope and have it inspected by an expert.

You can fill out this check list on your computer or print it out as poster.

The marking of the rope is no longer easy to read.

The manufacturer's mark, CE mark and the indication of the load capacity in kg, which can usually be read on the crimping clamp, cannot be seen.



Almost illegible labeling of a rope.

Wear of the suspension or end links by more than 15 percent.

Wear of the material to the point that the suspension or end links measure 15% less in cross section than the nominal thickness of the suspension or end link.

Example: Nominal thickness of suspension link when new = **1.4"**, i.e. **1.4" - 15 % =**

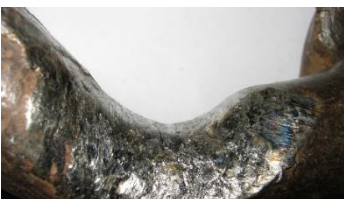


1.19"

Significantly reduced cross section due to material wear.

Wear of the hook base by more than 5 percent.

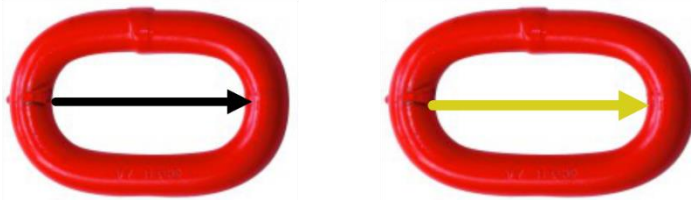
Reduction of the cross section by more than 5%: For example, the cross-section of the hook is 0.32", in the bottom of the hook you measure only 0.29". This is more than 5% less cross-section. Do not use this sling any more!



This hook base is clearly worn out.

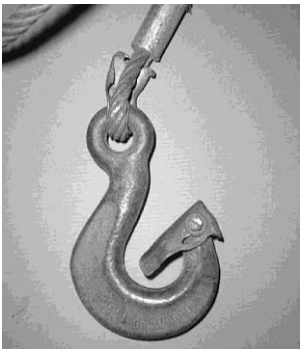
- **The suspension or end links are stretched more than 10 percent.**

The material stretches due to strain. If you measure over 10% more (inner length) in the unloaded state, remove the rope from use.



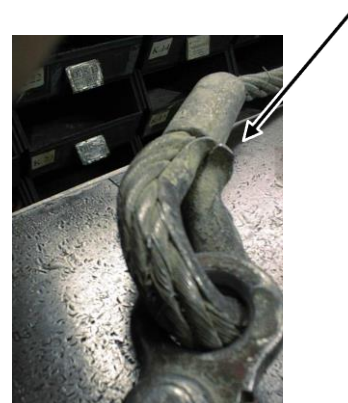
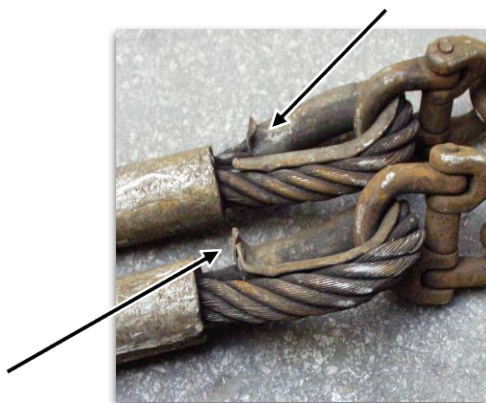
- **Deformation / bending of the individual components - Visual inspection reveals defects on hooks, suspension or end links.**

For example, the hook safety catch is bent or missing, or the hook is bent up. Also watch out for visible cracks or breaks on the hook.



This hook is significantly damaged.

- **The thimbles are deformed / compressed**



The rope end connections are damaged

Rope end connections are for example wire rope clamps, wedge end clamps, splices, aluminum crimps, flemish eyes



Clearly damaged rope clamps.

The free rope length is worn by more than 10 % of the rope diameter d

The rope diameter d is 0.62". However, the rope has worn out an ACTUAL diameter of 0.55". This is more than 10% less diameter (0.62" - 10% = 0.558")

Breakage of a whole strand - discard the rope!



Strand breakag.

Number of wire breaks

At this number of wire breaks (related to the length of the rope), you must remove the sling from service. d = rope diameter

(Rope)length	$3*d$	$6*d$	$30*d$
Strand rope	6	14	14
Cable lay rope	10	15	40

The figures given in the table are considered to be the extreme limit values. You can increase safety by removing your wire rope from service at lower wire break counts.

More than six randomly distributed outer wire breaks over a length of $6*d$ or 14 breaks over a length of $30*d$.



These wire breaks are safety-relevant! The rope must be taken out of service immediately.

More than 3 adjacent wire breaks on outer wires of a stranded wire



- Loosening of the outer layer in the free length**

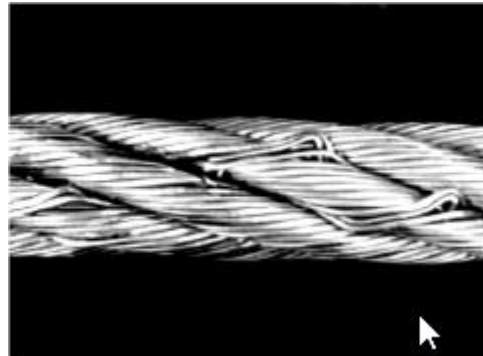


- Cuts and bruises on the rope (in the free length), which are not minor**

- Kinks, flattening, stepping out of the liner or other damage that can lead to deformation of the rope band (rope deformation)**



The rope insert is clearly visible here.

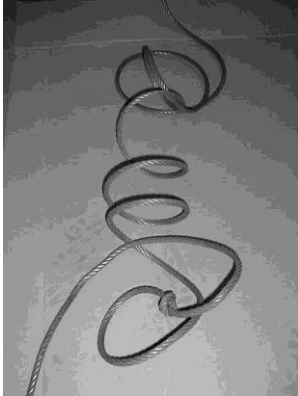


- Reduction of the wire rope cross-section in the area of deformation by more than 10 % of the rope diameter d**



- Damage due to heat (tarnishing of wires or pitting), acid or alkali**

If your rope is discolored or has been exposed to heat or materials containing acids or alkalis, sort it out immediately.



- Damage in the rope structure (knots, constriction, flattening, clank, kink)**



*The press clamp is clearly flattened
(Flemish eye here).*

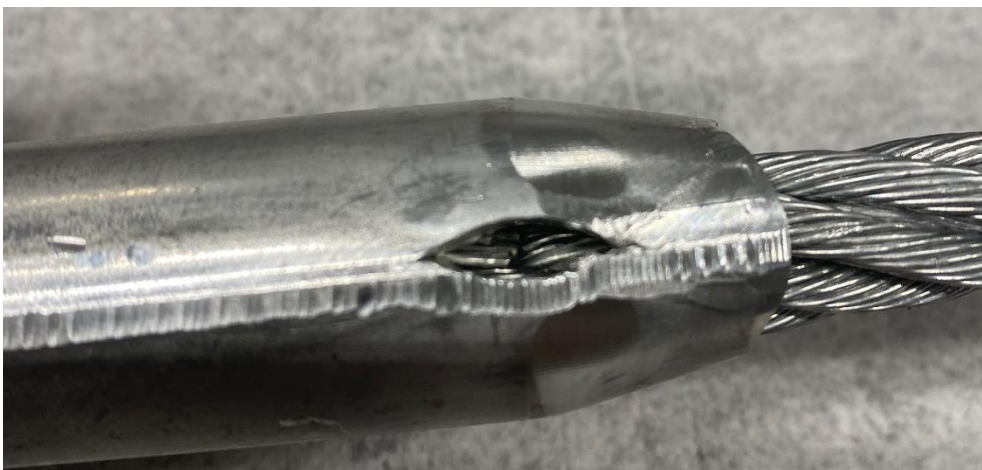
- Damaged rope end connections (wear, deformation or cracks in press clamps or pulling out a splice)**

- **Loose (dead) rope end has been pulled into the clamp or even out of the clamp**



- **In the case of a conical crimp connection, the end of the rope is not visible in the inspection bore**

The end of the rope is no longer visible (because shortened or worn / pulled out of the clamp)

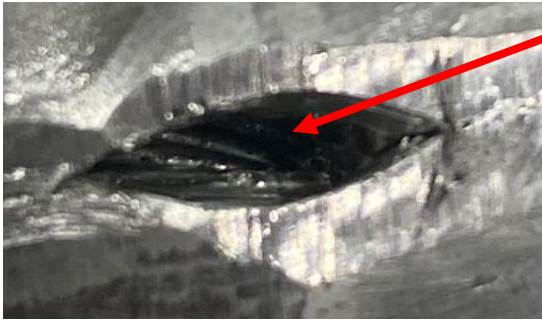


A press clamp with control hole (functional).

Detailed view of control borehole.



Close-up: The end of the rope is clearly visible - everything is in order



Close-up: No rope end to be seen – discard

Changes / manipulations to components

Corrosion of the wires or reduction of flexibility due to corrosion



Ensure that your employees receive appropriate training. Contact us by phone at +1 203-440-1940 or by e-mail at sales@doleco-usa.com.