

WIRE ROPE SAFETY

USE WIRE ROPE SAFELY

Wire rope is widely used instead of fiber rope because:

- it has greater strength for the same diameter and weight,
- its strength is constant whether wet or dry,
- its length remains the same under varying weather conditions,
- it has greater durability.

THINGS TO LOOK FOR WHEN INSPECTING WIRE ROPE

Wire rope should be visually inspected daily for wear, broken wire, and kinks. A thorough inspection should cover these points:

1. Is there evidence of corrosion, wear, or kinks? A rope that had been kinked cannot be repaired.
2. Are there any visible broken wires? If so, replace the wire rope if it does not meet the requirements of the Michigan safety standard applying to its particular use.
3. Is the rope properly lubricated? The rope should be kept properly lubricated to avoid stiffness and corrosion.
4. What is the condition of the fitting or splices? Any damaged fitting or splice should be replaced immediately.
5. Are thimbles used to protect wire rope eyes where possible?
6. Is an adequate safety factor always used?
7. If there is evidence that the wire rope has been crushed, abraded, flattened, bird caged or has sustained any other damage that distorts it, the rope should be removed from service.

WIRE ROPE STORAGE AND HANDLING

Wire ropes must be properly stored when not in use, in order to:

- protect them from grit and dirt,
- give ready access to them,
- permit accurate, complete visual inspections.

Wire ropes must be handled in a manner to prevent kinking or twisting. Improper rigging and lifting shortens the working life of a rope and puts your employees and equipment in danger.

WIRE ROPE LUBRICATION

The importance of periodic lubrication cannot be overstressed. A wire rope is a machine, having many moving parts. Each time a rope bends or straightens, the wires in the strands of the rope must slide on each other. Thus, a film of lubrication should be present on each moving part.

A second important reason for lubricating steel wire rope is to prevent corrosion of the wires. The lubricant also prevents deterioration of the fiber core. A rusty rope is a liability, since there is no means of visual inspection, which can determine the remaining strength of a corroded rope.

Lubricant may be applied with an oil can, brush or any effective method. The objective is to apply a uniform coating to the entire length of the wire rope.

Method of Clip Installation

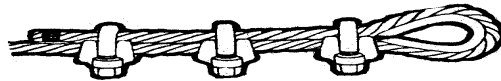
APPLY FIRST CLIP – one base width from dead end of wire rope – U-bolt over dead end-live end rests in clip saddle. Tighten nuts evenly to recommend torque.



APPLY SECOND CLIP – as close to the loop as possible – U-bolt over dead end – turn on nuts firm but **DO NOT TIGHTEN**.



ALL OTHER CLIPS – space equally between first two – this should be no more than one clip base apart – turn on nuts – take up rope slack – **TIGHTEN ALL NUTS EVENLY ON ALL CLIPS TO RECOMMENDED TORQUE.**



NOTE: All clip saddles must bear on live end of rope and match rope size. The distance between the clips on a wire rope is governed by the diameter of the rope. For rope sizes from ½” to 2 ¼” in diameter, the number of clips varies from 3 clips for ½” rope to 8 clips for 2 ¼” rope. The length of turned back rope also varies from 9” of turnback for ½” rope, to 112” of turnback for the 2 ½” rope.

A copy of the Michigan Safety Standard pertaining to WIRE ROPE SAFETY may be obtained from the Michigan Department of Labor and Economic Opportunity
MIOSHA Standards Section
(517) 284-7740

For additional safety training contact:

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