

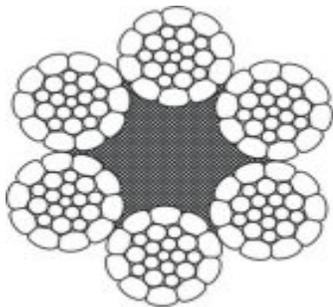


WIRE ROPE BEST PRACTICES

In America, wire rope was first manufactured by John A. Roebling. Roebling introduced several innovations in the design, materials, and manufacture of wire rope. Wire rope is used on hoists and in slings. Manufacturing a wire rope is similar to making one from natural fibers.

The individual wires are first twisted into a strand, and then six strands again twisted around a core. This core may consist of steel but also can be of natural fibers such as sisal, manila, or hemp. This is used to cushion stress forces when bending the rope. The specification of a wire rope type – including the number of wires per strand, the number of strands, and the lay of the rope – is documented using a coding system consisting of several abbreviations.

The rope shown below is designated: *6x19 FC RH OL FSWR*, meaning:

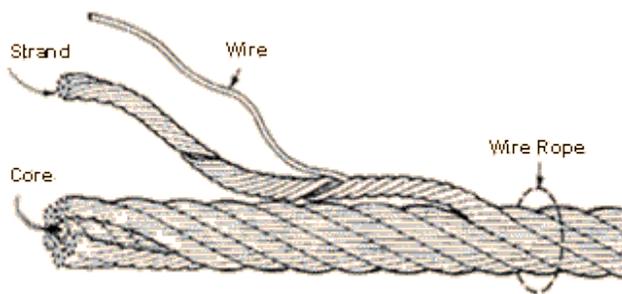


Symbol	Meaning
6	Number of strands that make up the rope
19	Number of wires that make up each strand
FC	Fiber Core
RH	Right-Hand Lay
OL	Ordinary Lay
FSWR	Flexible Steel Wire Rope

Wire rope is a complex machine composed of several precise, moving parts which are designed and manufactured to bear a very definite relationship to one another. Many wire ropes contain more moving parts than most mechanisms that fall within the broad general term of machines. For example, a six-strand rope, consisting of approximately 46 wires per strand, contains a total of 276 individual wires, all of which must be able to move with respect to one another if the rope is to have the necessary flexibility during operation.

Inspect the rope before each use for corrosion, kinks, and broken wires. Make sure the wire rope is lubricated. Lubrication can be applied with a brush or wiping the wire rope down with a lubricant-saturated rag.

Evaluate the appearance of any splices and the general appearance of the rope. A rope with many broken wires, a rope that has been crushed, or a rope that has been un-laid to form a "bird cage" (that's what it looks like) in the middle of the wire rope renders the rope unusable and unsafe.



Wire rope will fail if worn out, overloaded, misused, damaged, or improperly maintained. Destroy, rather than discard, items that have been judged defective. They might be used again by someone not aware of the hazard of the defect.