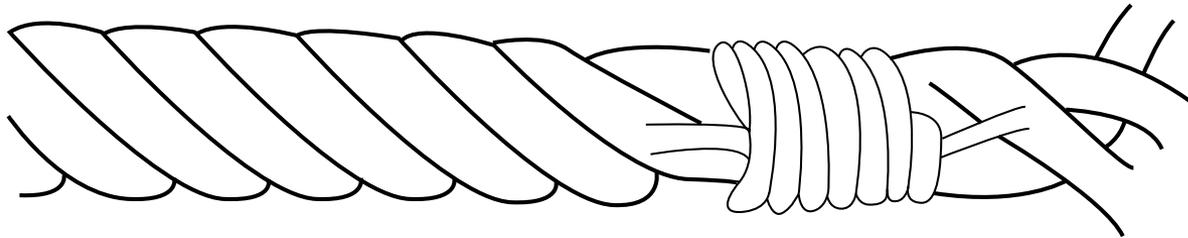


## MARLIN-SPIKE SEAMANSHIP

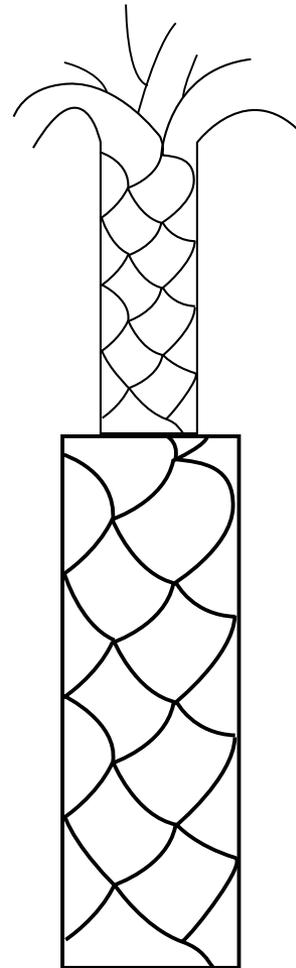
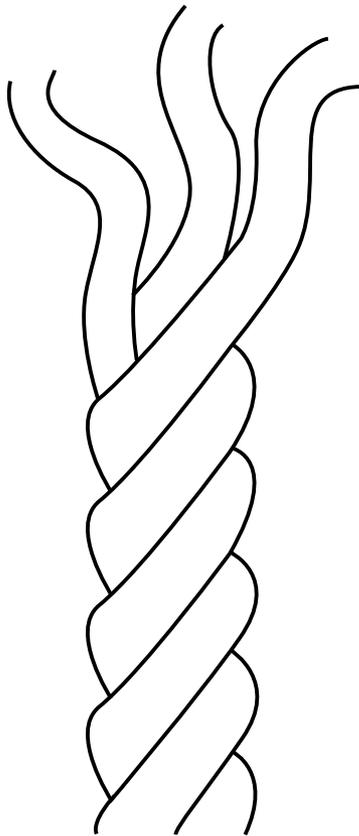


## WHIPPING AND SEIZING

Whipping



## LAIID VS. BRAIDED LINE



## CONSTRUCTION OF LINE

- Fibers
- Yarn
- Strands
- Do not coil against the lay – causes kinks



## EXAMPLES OF DIFFERENT LINE



Double Braid



Three Strand



Regatta Braid

## NATURAL ROPE

- Natural materials used for ropes include
- Manila: strongest and easiest to work with
- Sisal: slightly weaker, but cheaper than Manilla; Harder to work with.
- Hemp: mostly used for fittings, highly absorbent



## NATURAL ROPE

- Take precautions to prevent rot:
  - Clean and fully dry before storing
  - Rinse in fresh water before and after using in salt water
  - Regularly inspect because they will rot from inside out



## SYNTHETIC ROPE

- Vulnerable to sunlight and oils
- Wash, dry and store out of sunlight



## SYNTHETIC ROPE

### Nylon

- Stronger than Manila, able to stretch and easier to work with.
- Often preferred for dock lines and anchor rodes because of its flexibility and manageability.



## SYNTHETIC ROPE

### Dacron

- Easy to work with and only slightly weaker than nylon.
- Is UV resistant and often used for sailboat running rigging



## SYNTHETIC ROPE

### Polypropylene

- Inexpensive, but difficult to work with and not good for tying knots.
- It floats and therefore specified by the Coast Guard for use with rescue lines



## BRAIDED LINE

Stuffer-braided line:

braids twisted around a highly twisted yarn core that rounds out and hardens the rope

## **BRAIDED ROPE**

- Does not kink or cockle (uneven, pucker)
- Does not flex to admit dirt and abrasives

## BRAIDED LINE

- Double-braided line:  
two hollow braided rope, one inside the other. The core is made of large single yarns in slack braid

## **BRAIDED LINE**

- Hollow-braided line:  
even number of parallel, tape-like groups of small yarns braided into a hollow tube-like cord

## BRAIDED LINE

- Solid-braided line:  
large yarns, either single or plied, tightly braided to form a hard, relatively stiff rope that will not kink, snag or swell

## COILING A ROPE

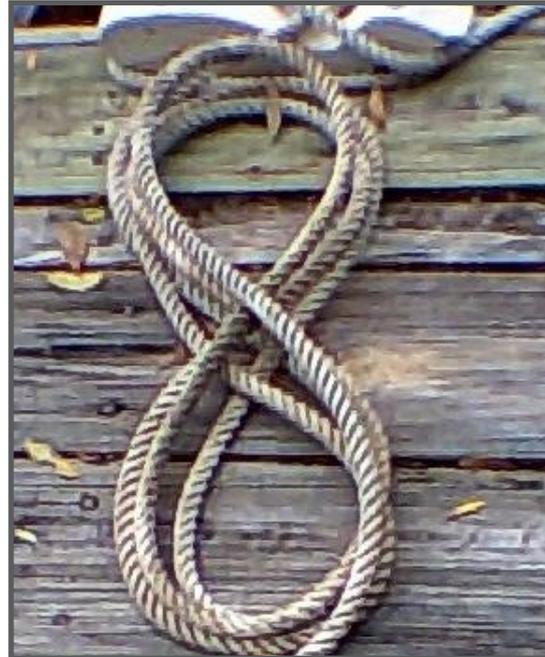
- Always coil in the direction it is twisted
- In most cases, ropes are twisted to the right (right-hand line) and should be coiled clockwise

## COILING A ROPE

**Flemish:** to lay the rope in a tight spiral

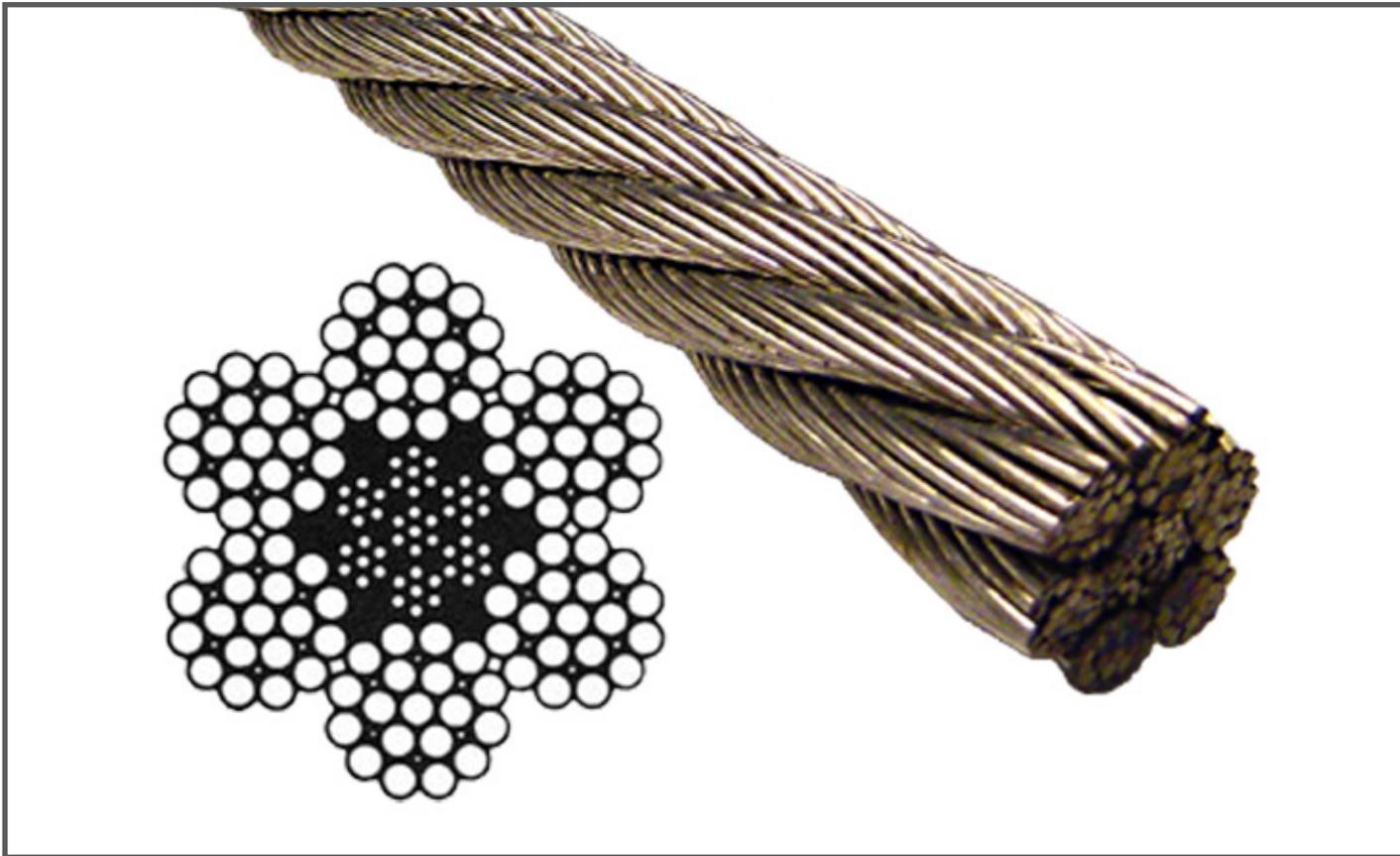
**Faking:** to lay the rope in the shape of a figure eight

**Flaking:** to lay the rope in a series of parallel rows.



## WIRE ROPE

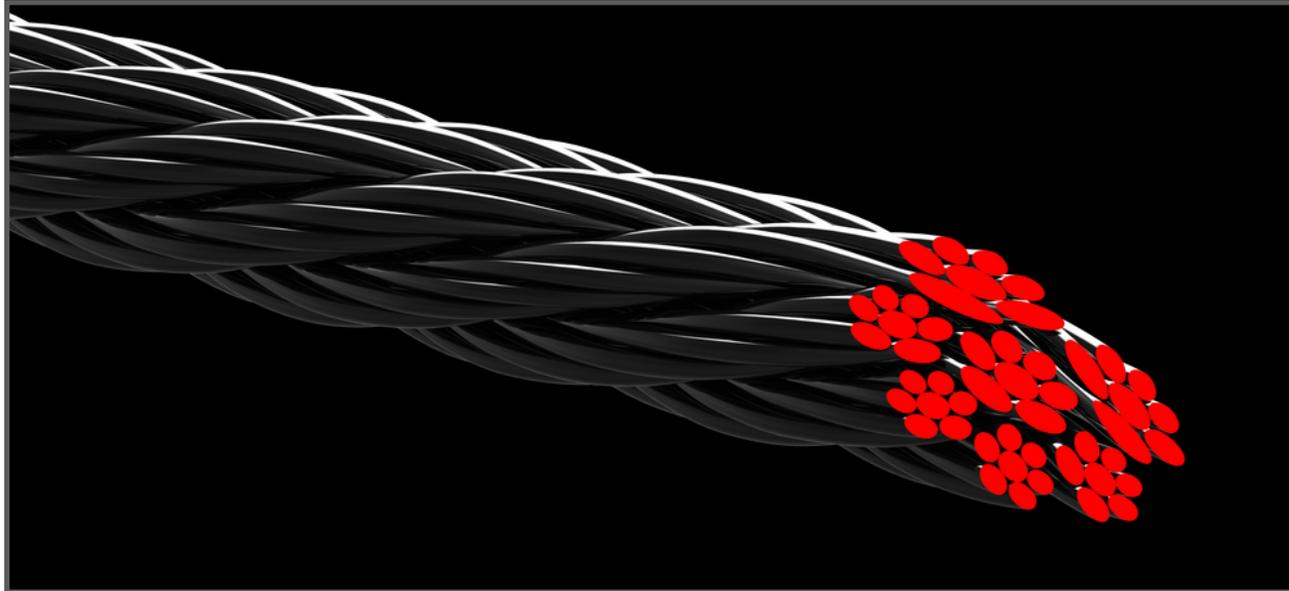
-Wires twisted into strands and twisted again around a fiber rope core



## WIRE ROPE

Wire rope is specified by

- Its diameter
- It's lay: # strands x wire per strand
- The wire material
- The core material
- 6 X 19 wire is six strands, with each strand having 19 wires



## WIRE ROPE

- Wire rope is susceptible to corrosion, especially where the rope is attached and water can run into and collect in the cracks.
- You must understand the safe working load for a wire rope

## ROPE TIPS

- Vary the stress point by periodically switching the direction of the line
- Fiber damage can be seen when the rope starts to look “fuzzy.”  
Fibers tend to pop up when over stressed.
- Never stand in the bight of the line.

## SPLICING

- To fix a broken line
- To add strength to a line
- To make an eye
- It is important to recognize the balance of tension on each strand of material
- Wire ropes are less forgiving

## SPLICING

- Short Splice:



## SPLICING

- Eye Splice:



[www.animatedknots.com](http://www.animatedknots.com)

## SPLICING

- Long Splice:
  - is not as thick as short splice

## SPLICING

- Back Splice:



## KNOTS

-The Bowline:

The most useful aboard a vessel.

Can always be untied, but will never slip.



## KNOTS

- Square Knot:  
Good for tying lines of same diameter.  
Also called reef knot.



## KNOTS

- Sheet bend:  
Good for tying knots of different diameters.



## KNOTS

- Clove Hitch:  
Used to temporarily attach line to a piling.  
Should be followed up with a half hitch.

