



Ropes and Lines

GENERAL CONSIDERTIONS

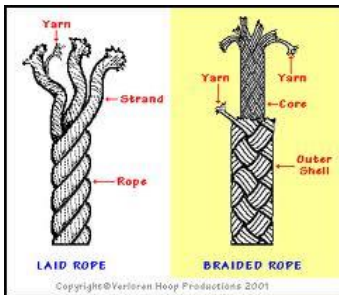
Strength: Working load should be from 1/5th to 1/12th the breaking strength (New England Ropes)

Stretch: Halyards require low stretch. Anchor rodes that stretch a lot absorb a lot of shock loading

Feel: Modern fibers can be stronger than wire rope; but small diameters make them hard to hold by hand. 5/16" to 3/8" diameter or more is hand comfortable.

UV resistance: Lower resistance means more frequent replacement.

New England Ropes Line Selector <http://www.neropes.com/LineSelector.aspx>



There are two major ways to construct a line:
laid and braided.

Some braids do not have a core.

Cores can be straight or braided.

Braids come in 3,6,8,12,16, 8x3

Fiber and Structure	Uses	Qualities	Strength	Stretch	Cost	UV Resistance
Polyester: Double braided	Sheets, the line of choice for most cruisers	Supple	high	low	moderate	good
PolyPropelene: braided and double braided	Dinghy towing; it floats and keeps line out of prop. Sheets for spinnakers and dinghys.	Floats! Does not absorb water	low	high	very low	poor
HMPE (Dyneema, Spectra) ARAMIDS(Kevlar, Technora) LCP(Vectran) Braided.	Halyards		very high	very low	very high	fair
Nylon: 3 strand laid	Anchor rodes	Stretches	high	high	moderate	good
Manila 3 strand laid	Everything before synthetics	Rots easily	Low-moderate	high.	very low	good
Modern Mixtures	Mixtures of two or more synthetics, cores are straight or braided or three strand surrounded by various protective sheaths.					

Washing

-Do not machine wash new ropes; it removes protective coatings on the fibers; soak them; wash with a hose.

-The agitation of a washing machine is always potentially dangerous and can destroy ropes. So here is Craig Spear's solution. Use your dishwasher! But first, make sure ends are heat melted and whipped. Stitch splices to make sure they are not milked apart.

-Cautions: No Power washing; its cuts fibers. No bleach; Always air dry.

- ✓ Coil the lines neatly as if you are going to store them
- ✓ Place the lines in either the top and/or the bottom tray of the dishwasher
- ✓ Turn OFF the heated dry option
- ✓ Add normal dishwasher soap-use sparingly with new ropes so as not to wash off protective coatings.
- ✓ At the last rinse add fabric softener
- ✓ When done, open the door and let the lines drip dry for a while
- ✓ Then let the lines air dry until they are totally dry before storing them
- ✓ A final check will reveal any frayed ends or other problems that can be fixed

If you must use a clothes washer:

- ✓ Monkey braid or daisy chain the rope (www.animatedknots.com) moderately tightly and tie ends to keep line from tangling or snarling wash.
- ✓ Cover any shackles with socks to protect machine.
- ✓ Put in an old pillow case which is securely tied. Snug pillow cases make washing double braid and soft laid three strand possible on gentlest cycles. Practical Sailor July 2011

When To Retire Lines-Any one of the following is enough (Sampson Splicing Manual)

-When outside is glazed or melted by heat. It is stiffer and less flexible. Cut out and splice or discard.

-Compression as around a sheave can look like melted or glazed, but is not, flexing eliminates it.

-Full strands are displayed outside the core.

-Diameter inconsistency

-Discoloration by chemicals

-Localized sections of stiffness

-Three or more adjacent cut strands in double braid sheath.

-One or more cut strands in 3 strand core.

-Abrasion reduces bulk by 10% in 3 strand; 50% in double braid