

# Ropes and Knots

Ropes and knots almost symbolise boating – the special names for marine ropes and knots are often used to caricature life at sea. It need not be so mysterious however, as you only really need to know a few knots and the main types of man-made rope available.

## Rope

The ropes that are used for normal applications on small power boats are listed in the table overleaf. There are different materials for different uses. You will find marine ropes are almost exclusively man-made; natural fibres such as sisal and hemp are used only on traditional craft and for decoration. Ropes for sailing boat applications are not included here – you will discover a great variety in your yacht chandlers. Have a look in the off-cut bins, you can usually find reasonably-prices hanks of a useful length for small boats.

All ropes will unravel if cut. To prevent this, they are cut at the chandlers with a hot knife. If you want to trim a man-made fibre rope yourself, cut the rope with a sharp knife and before it unravels, melt the end with a flame or soldering iron. Wet your fingers and mould the end into a neat shape while it is still pliant.

### **Marine Ropes Supplied By The Metre**



### Types of Man-Made Rope

Type	Characteristics	Uses
3-strand Nylon	Sinks. A high stretch characteristic makes this line exceptionally good at absorbing shock loads. Easy to splice with soft eyes or thimbles. Excellent abrasion resistance. Very good UV resistance. Not very acid-proof. Tends to go stiff when wet, particularly in the larger 3-strand sizes.	Ideal for anchor warps and mooring lines
3-strand Polyester	Sinks. Even when wet it retains full strength and remains easy to handle. Good abrasion resistance. Easy to splice with soft eyes or thimbles. Flexible and soft to handle. Nearly as strong as nylon, but not so much stretch. It can be braided or pre-stretched to give very low stretch. Excellent UV resistance. Very good chemical resistance.	Can be used for anchor warps, mooring warps, lanyards, fenders and fender lines
Double-braided Dockline	Designed specifically for mooring lines, more strength than 3 strand mooring lines. Shock absorbing braided nylon core, abrasion resistant polyester cover. Stronger than 3-strand ropes, easy to handle and splice.	Specially designed for mooring lines
Multiplyt Nylon	Sinks. Very flexible making it easy to stow in the chain locker without kinking. Provides elasticity with flexibility. Absorbs high shock loads and is easily spliced.	Specially designed for anchor warps, mooring warps and mooring risers.
Polypropylene	Floats. Not so strong as nylon or polyester. Stretch is between nylon and polyester, depending on type. Excellent chemical resistance. Not very resistance to UV. Satisfactory wear resistance, depending on type.	Because it is stiff, not particularly easy to tie and floats, it is best to use this type only for a floating rescue line.
Polyethylene	Floats. Similar properties to monofilament polypropylene	Used mainly in the fishing industry. Useful for cheap pot-lines but requires leaded inserts to ensure it sinks.

## Knots

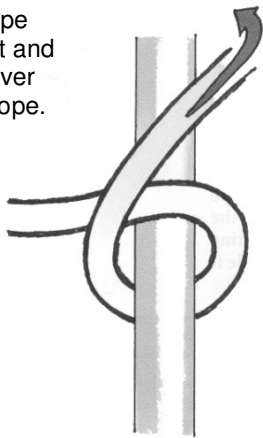
A good knowledge of a few key knots is essential if you use a boat. If you do not tie a knot correctly, the rope could easily come undone, or jam, at an awkward moment. Depending on circumstances this could be embarrassing or downright dangerous.

You only need to know a few knots, and these are easy to tie. If you use the correct knots you will not only make boating safer and easier for yourself, you will show other, more knowledgeable boaters that you are one of the boating fraternity and not just an angler on a boat!

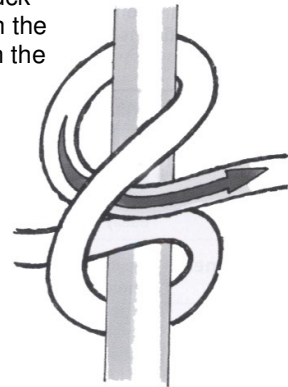
### Clove Hitch

The clove hitch is used to tie a rope to a post or rail. It is a useful knot for this purpose as the rope under load can be let in and out under control by untying only the first part of the hitch. It is used for tying fender ropes to rails, and mooring lines to posts.

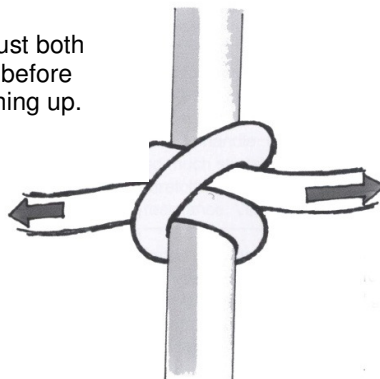
1. Pass the rope round the post and pass the tail over the standing rope.



2. Continue round the post and tuck the tail through the loop created in the first pass.



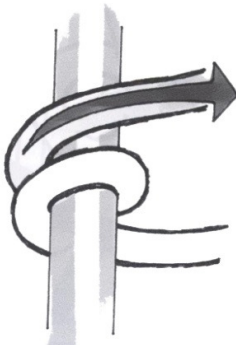
3. Adjust both ropes before tightening up.



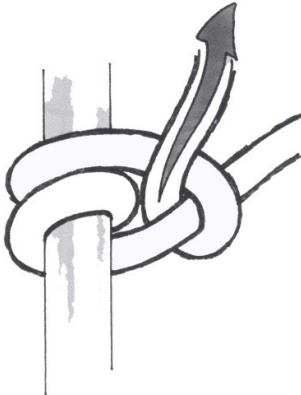
**Round Turn and Two Half Hitches**

The round turn and two half hitches is a good knot for tying a rope to a ring or post when it is expected to take a heavy strain. The round turn helps secure the rope and takes some of the strain before the hitches take it, which means the hitches do not tighten as much as they would without the round turns, and are consequently easier to untie after the load is released.

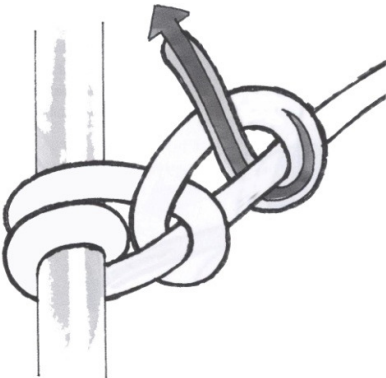
1. Make two turns around a ring or post.



2. Tie one half hitch by passing the tail around the standing rope and through the loop.



3. Make a second half hitch by repeating this, then pull tight.



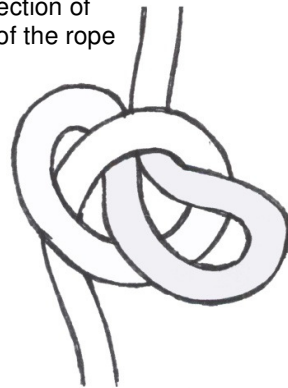
**Bowline**

A bowline loop cannot slip, so it is a good loop to use if you need to keep a loop of a fixed size, such as on the end of a mooring line or a safety line around a person. It does become very tight after a load is applied to it, but it can be undone by twisting the knot.

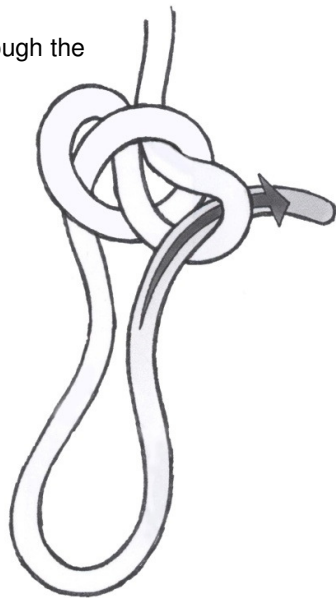
1. Make a small loop with the rope.



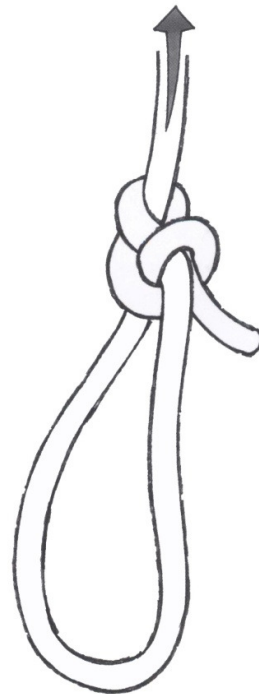
2. Twist this loop around and pull a small section of the standing part of the rope through the loop.



3. pass the tail through the loop.



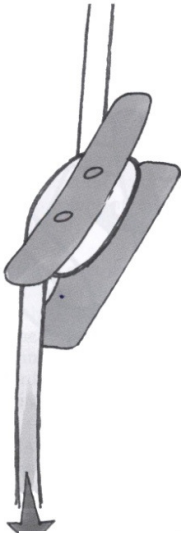
4. Pull the standing part of the rope to pull the tail through the loop, leaving the free end outside the loop. Tighten and snug the knot down.



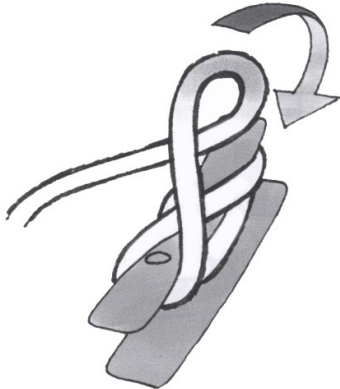
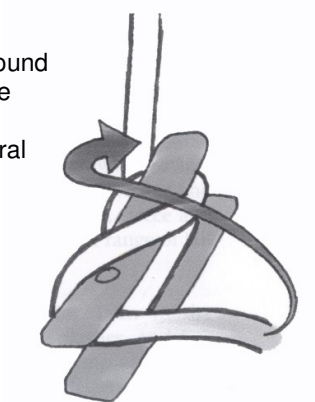
**Cleat Hitch**

A cleat is a very useful fixing point, but you need to know how to tie a rope to it. It is very good for taking considerable strain from the rope and remaining very easy to untie.

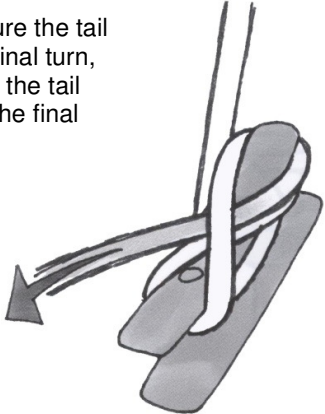
1. Adjust the length of rope to be fastened, and take a turn around the outside of the cleat.



2. Take the tail around the two ends of the cleat in a figure of eight pattern several times.



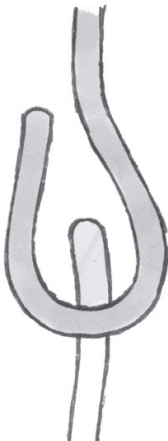
3. Secure the tail with a final turn, tucking the tail under the final turn.



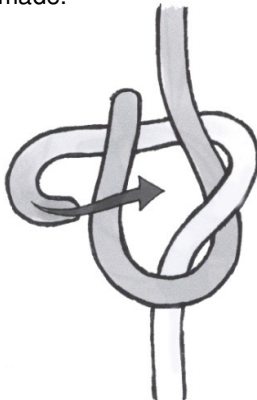
**Double Sheet Bend**

A sheet bend is used to tie two ropes together, and works just as well for two ropes of differing types or thickness. It looks very simple but it is much more secure than a reef or granny knot, neither of which are of much use on a power boat.

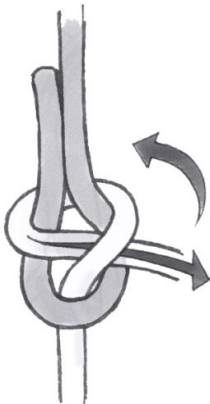
1. Make a loop at the end of the first rope – the thicker if they are not of the same thickness.



2. Take the second rope end, and thread it through the loop you have just made.



3. Pass the second rope around the back of the loop and round to the front, and tuck the tail under the second rope and over the loop of the first rope.



4. Pass the tail round the back of the loop and back under the second rope to form a double sheet bend.

