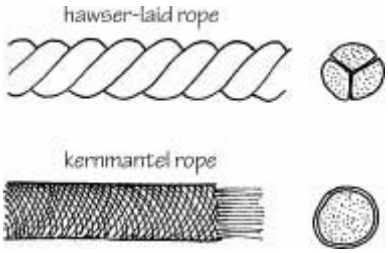
Book:	Toolcare
Chapter:	7 Miscellaneous repairs
Section:	Ropes
Meta Data:	Details

Ropes used for tree work should be kept separate from ropes used for general work, which may include pond work, hauling wheelbarrows, towing vehicles and so on. Ropes can be distinguished by marking them with fabric dye. Mix up a quantity of cold water dye, suitable for the type of rope, and dip a section of rope into it.

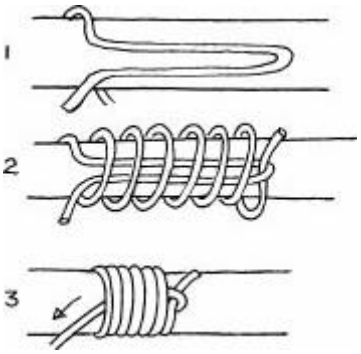
Natural-fibre ropes are still available made of sisal or manila (hemp), but are generally less strong and more liable to rot than man-made fibre ropes. Ropes of man-made fibre are, in order of strength, made of nylon, polyester (Terylene) or polypropylene (see table below).

According to the way they are made, ropes are either hawser-laid (cabled) or kernmantel. Hawser-laid ropes have fibres twisted together to make strands, and then three strands twisted together to make the rope. They can easily kink and require careful coiling. Kernmantel ropes, made of polyester, have a large number of filaments running straight down the rope, encased in a braided sheath. They have a high tensile strength and are non-kinking. Kernmantel ropes for tree work have low stretch. Kernmantel ropes designed for rock climbing have very high stretch and should never be used for tree work.



Hawser-laid polypropylene ropes are the type most commonly used for conservation work. Although these do not rot in water, they should still be stored dry and away from chemicals and batteries. Polypropylene ropes float, which is an advantage for pond work. Hawser-laid sisal or manila ropes will rot if kept damp.

If ropes are returned to the store very muddy, they should be washed, coiled loosely to dry and then coiled for storage. All ropes should be checked once a month for damage and wear by uncoiling them and making a careful visual check.



Very badly frayed or damaged ropes should be discarded. Ropes with one or more points of damage can be cut and the sound lengths kept for general purposes. Singe the ends of man-made fibre ropes to seal them. Use fine string (whipping twine) to whip the ends of natural-fibre ropes, as shown above.

The table below gives the breaking load and safe working load of various sizes and types of rope.

Rope (diam.)	Breaking load (kg)	Safe working load	
Sisal	8mm	480	80
Sisal	12mm	950	158

Sisal	16mm	1780	296
Sisal	24mm	4060	676
Manila	8mm	540	90
Manila	12mm	1070	178
Manila	16mm	2030	338
Manila	24mm	4570	761
Polypropylene	8mm	960	160
Polypropylene	12mm	2030	383
Polypropylene	16mm	3500	583
Polypropylene	24mm	7600	1266
Polyester	12mm	3000	500
Nylon	10mm	2080	346
Nylon	12mm	3000	500
Nylon	14mm	4100	683