Rope Encyclopedia Article

Rope

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Rope

Ropes have been used for more than 10,000 years and were originally constructed from vines and strips of animal hide. About 3,500 B.C., the Egyptians began using papyrus, hemp, and other fibrous plants.

Almost any fiber can be used to make rope, including flax, cotton, manila, and sisal. Today, many types of rope are made from synthetic materials, which can better withstand the effects of time and weather. Almost all ropes are made from three or more strands, which are themselves composed of many yarns. The yarns are arranged in concentric layers (to make them compact) and are twisted slightly, forming a strand. Three such strands are then twisted together in the opposite direction--this keeps the rope from unraveling, even when stretched. The rope can also be plaited or braided, making it even stronger. A hawser or cable-laid rope is made from three complete ropes that are twisted together.

During the time of ancient Egypt ropes were used primarily as equipment for seagoing vessels. Then, long buildings were constructed wherein rope could be manufactured--the longer the better, since the rope could only be as long as the building it was made in. These buildings could be up to 400 yards (365 m) long, and came to be known as ropewalks due to the tremendous amount of footwork required of rope makers. Though mechanized, many modern rope machines are still called ropewalks.

As technology has advanced, new synthetic materials have begun to replace natural fibers in the manufacturing of rope; polymer fibers can be made longer and stronger, and are better suited for certain applications. Also, because the fibers are man-made, they can be any length, so that a single polymer fiber can run the entire length of rope.

Nylon rope is known for its ability to stretch without breaking. It is often used for towing as well as climbing, where the weight from a sudden drop can sometimes snap ropes made from natural fibers.

On boats, manila and hemp ropes have been almost entirely replaced by ropes made from polyester, and dacron and polypropylene. Unlike natural ropes, these synthetic ropes will not stretch when wet, nor will they rot. They are also easier to grip without abrasion.