FIBER ROPE SPECIFICATIONS

HOW TO SELECT THE CORRECT MATERIAL

There are a wide variety of rope materials and combinations. The first step in choosing the best rope material is finding out the jobs it has to do.

CHECK THESE TEN POINTS IN SELECTING THE CORRECT MATERIAL:

1• How strong does it have to be? Check working loads and pay attention to shock load warnings.
2• How much stretch is needed or tolerated? Is stretch needed to absorb energy?
3• What conditions will the rope be exposed to? Does it have to be resistant to sun, aging, acids, alkalis, solvents, marine growth?
4• How is it to be handled? Is the hand or feel of the rope material crucial?
5• Does it need to be dielectric (meaning that it does not conduct electricity)?
6• How long does it need to last?
7• Is weight a major factor?
8• Does it need to float, sink or be absorbent?
9• Will it be used in extreme temperature conditions –high friction, frozen water etc?
10• What is the cost?

HOW TO SELECT THE CORRECT ROPE CONSTRUCTION

There are many constructions of rope: Braided, twisted, double braids, hollow braids, plaited, etc. Certain constructions stretch less and are stronger, etc.

Ask yourself the previous ten questions about your construction requirements, then use the chart on p.140 to choose the best construction.

- **Is minimun stretch important for a diameter and material?**
- **Is maximum strength important for a given diameter?**
- **Is a slight torque to the rope a problem?**
- **Must it be uniformly round?**
- **Is the exact diameter, size or tolerance crucial?**
- **Is it exposed to uses that would cause some constructions to kink or hockle?**
- **What is the cost?**

DO NOT OVERLOAD ROPE

Always load rope according to the working load recommendations and instructions given on the Rope Specifications Chart Page. Allowance should be made for dynamic loading conditions for situations where life or limb is involved. Never use a nylon line which has a high stretch. The nylon line will stretch and not carry its porportionate share of the load, thus putting extra strain on the other lines.

AVOID SUDDEN JERKS OR STRAINS

Rope that is strong enough to withstand a steady pull can be broken with a sudden jerk. Be aware of all possible dynamic loading situations. Avoid them when possible and allow for strong enough rope when they can't be avoided.

VISUALLY INSPECT ROPE FREQUENTLY

Inspect rope regularly for frayed strands and broken yarns. Twist open the strands slightly to check for powdered fiber which shows internal wear. Discard rope that is dangerously worn or damaged.

ALLOW FOR ELONGATION DURING BREAK-IN PERIOD

All new rope has a permanent elongation during a breaking period. It is usually 4% to 5%. Band is caused by the fibers compacting during use.

After rope is broken in, it may stretch when loaded but it will return to its original length after the load is removed.