

Rope & Cordage: Proper Care and Use Guide

WARNING: Misuse of ropes could result in serious injury.

CAUTION: Use of Working Loads

Because of the wide range of rope use, rope condition and exposure to the various factors affecting the rope, it is impossible to make blanket recommendations as to the correct choice of rope to use. However we have provided the tensile strength for each diameter and type of rope. These strengths are based on tests of new and unused rope, with appropriate splices. Proper choice, care and inspection of the rope are essential for reasonably safe use of the rope. Consult your cordage vendor for proper use.

Dynamic Loading Voids Normal Work Loads

Dynamic Loading occurs when rope is subjected to sudden or extreme stress. Figures given as working loads are void if rope has been subjected to dynamic loading, high temperatures, long periods of load, extreme stress, improper storage.

Effect of Temperature on Tensile Strength

The tensile strength charts apply to ropes tested at normal room temperature (70°F). Ropes have lower tensile strength at higher temperatures. Continued exposure at elevated temperatures causes permanent damage.

Avoid Abrasion

All ropes should be protected against sharp edges and abrasive surfaces. When worn areas are visible, the tensile strength is compromised. Protect the rope's surface with chafing gear around the rope.

Avoid Chemicals

Acids and Alkalis are damaging to ropes and fibers. Caution should be used when ropes are used around building cleaning acids, caustic soda and paints. Proper inspection should be made of rope prior to use.

Rope Inspection

Rope Inspection should be a continuous process that takes place before, during and after each use. When fiber shows wear in any given area, the rope should be re-spliced, downgraded or replaced.

Knots and Splicing

Splicing should be used instead of knots. Knots can decrease a rope's tensile strength by up to 50%.

Rope Storage

All ropes should be stored in a clean dry location, out of direct sunlight and extreme heat. Natural fiber ropes, if not kept dry, will rot over time, reducing tensile strengths dramatically.

Sunlight Degradation

Polypropylene and polyethylene ropes are subject to ultraviolet degradation. The product should be replaced when signs of excessive deterioration is indicated by discoloration or broken filaments. Tensile strengths may be dramatically reduced by sunlight degradation.

Dielectric Properties

Dielectric property testing applies only to new, unused clean rope and holds true only under these ideal conditions. Dirt, grease, entrapped moisture, or other contaminants will increase conductivity greatly. Nylon or natural fiber ropes should not be used around energized lines. Rope dielectric properties must be tested under actual operation conditions.

This guide is provided as general reference for safe rope handling. Always consult your cordage vendor for guidance specific to your application.