



#100, 2210 Premier Way Sherwood Park, Alberta. Tel: (780) 464-7139 Fax: (780) 464-7652

E-mail: [inquiries@safetydirect.ca](mailto:inquiries@safetydirect.ca)

USER INSTRUCTIONS FOR Kernmantle Rope

PLEASE READ THESE INSTRUCTIONS BEFORE USING THE EQUIPMENT

**KMIII Low Stretch Kernmantle Rope:**

KMIII meets or exceeds the requirements of NFPA 1983 Standard on Life Safety Rope and Equipment for Emergency Services, and European Standard Personal Protective Equipment for the Prevention of Falls from Height EN 1891 for Low Stretch Kernmantle rescue/rappelling rope.

KMIII is intended for use in rescue operation from above a victim or for rappelling. Should the risk of free fall arise, a dynamic rope is recommended for use; refer to EN892 for requirements. While using KMIII, anchoring points should always be above the user. Misuse of this product, or use in conjunction with incorrect hardware and rappelling devices may cause serious injury or jeopardize the safety of the rescue operation. Use rope only with an approved life safety harness or escape belt. **New England Ropes recommends KMIII be used with NFPA or CE approved hardware and related equipment, and the hardware shall be suitable for the diameter of rope being used.** KMIII should only be used by qualified personnel in life safety, rescue, and rappelling. KMIII should be inspected after and prior to each use. Records must be kept that detail each use and the results of the inspections. It is recommended that the rope be used by the same person that maintains the history of that rope. Prior to any rescue operation, careful planning and situation analysis should take place to ensure safety.

KMIII Low Stretch Kernmantle Rope					
Product Name	5/16"	3/8"	7/16"	1/2"	5/8"
NFPA Test Results					
Diameter	8.5mm	9.5mm	11mm	13mm	14.5mm
Approved Class	Escape Rope	Light Use	Light Use	General Use	General Use
Min. Tensile (kN)	20	27	35	46	51
CE Test Results per EN1891					
Diameter (mm)	8.6	9.8	11.5	13	Not Tested For CE Compliance
Sheath Slippage (mm)	2	1	-7	2	
Elongation	2%	3.2%	1.0%	2.1%	
Sheath % of Mass	55.4%	46.5%	45.3%	49.0%	
Core % of Mass	44.65	53.5%	54.75	51.0%	
Mass/Length (g/m)	56.1	66.9	92.9	121.1	
Static Strength w/o Termination	>18kN Pass	>18kN Pass	>22kN Pass	>22kN Pass	
Static Strength w/ Termination	>12kN Pass	>12kN Pass	>15kN Pass	>15kN Pass	
Approved Type	B	B	A	A	
Sheath Material	Polyester				
Core Material	Nylon				
Shrinkage	<5%				

**Terminating:**

***KMIII should be terminated using a figure-8 knot, double fisherman’s knot, or a bowline knot. Systems using static Kernmantle rope should incorporate reliable anchoring systems. Slack rope between the user and the anchoring point should be avoided due to the potential of injury.***

**Markings:**

***CE indicated the rope has passed testing in accordance with EN1891 requirements. 0082 indicates the notified body that performed the tests.***

***KMIII is the brand name given by the manufacture.***

***KMIII is the commercial name of the rope.***

Type A ropes are designed for general use by persons in rope access including all kinds of work positioning and restraint: in rescue, and in speleology.

Type B ropes are low stretch Kernmantle ropes of a lower performance than type A ropes, requiring greater care in use.

Type B ropes are intended for descending or lowering in case of rescue using appropriate descender conforming to EN841.

Type B ropes are not recommended for use in rope access and work positioning.

Notified body for EC type Examination	
<b>CE0082</b>	APAVE SUDEUROPE BP 193 13322 MARSEILLE CEDEX 16 FRANCE
Notified body for production control under article 11B	
<b>CE0120</b>	SGS United Kingdom Ltd 202B Worle Parkway, Weston-Super-Mare BS22 6WA UK

**REMOVING ROPE FROM COILS AND REELS**

***Remove rope properly from coils or reels to prevent kinking.***

If the rope is in a coil, then it should always be uncoiled from the inside as directed by the manufacturer.

If on a reel, then the rope should be removed by pulling it off the top while the reel is free to rotate. This can be accomplished by passing a pipe through the center of the reel and jacking both ends up in a horizontal position until the reel is free from the surface. To proceed in any other manner may cause kinks or hockels (strand distortion). If rope is cut to shorter lengths, then all markings must be repeated as on the original rope.

**HANDLING ROPE**

***Never stand in line with rope under tension. If a rope or attachment fails, it can recoil with sufficient force to cause physical injury. Synthetic rope has higher recoil/snapback tendencies than natural fiber rope.***

Reverse rope ends regularly, particularly when used in tackle. This permits even wearing and assures a longer, useful life. When using tackle or slings, apply a steady, even pull to get full strength from the rope.

## **OVERLOADING:**

***Do not overload rope. Sudden strains or shock loading can cause failure.***

Avoid sudden strains or shock loads which can exceed breaking strength. Shock loading can cause failure of a rope normally strong enough to handle the load.

Working loads are not applicable when rope is subject to significant dynamic loading. Whenever a load is picked up, stopped, moved or swung, there is an increased force due to dynamic loading. The more rapidly or suddenly such actions occur, the greater this increase will be. In extreme cases, the force put on the rope may be two, three, or even more times the normal load involved.

Examples could be picking up a tow on a slack line or using a rope to stop a falling object. Users should be aware that dynamic effects are greater on a low-elongation rope such as manila than on a high-elongation rope such as nylon, and greater on shorter rope than on a longer one. Excessive dynamic loading of a high-elongation rope is equally dangerous, because of stored energy which will cause the rope to recoil dangerously if it breaks. When a working load has been used to select a rope, the load must be handled slowly and smoothly to minimize dynamic effects and avoid exceeding the provision for them. *If it is suspected that the rope has been shock loaded, then it should be retired.*

## **CHECKING ROPE FOR WEAR**

***Avoid using a rope that shows signs of aging and wear. If in doubt, destroy the used rope. If there is a question, do the same. It is recommended that the user maintain a log of use for each rope, noting such things as shock loads, weights to which rope was subjected, number of uses, etc. This will help to determine when to retire the rope. The product should be inspected annually by a competent person authorized by the supplier.***

No type of visual inspection can be guaranteed to determine accurately and precisely actual residual strength. When the fibers show wear in any given area, the rope should be downgraded, or replaced.

Check the rope regularly for frayed strands and broken yarns. A pulled strand can snag on foreign objects during a rope operation. Check your rope carefully after each use for cuts, chaffing, hard spots, or any deterioration.

Both outer and inner rope fibers contribute to the strength of the rope. When either is worn, the rope is weakened. A heavily-used rope will often become compacted or hard which indicates reduced strength. The rope should be discarded if this condition exists.

## **ABRASION**

***Avoid all abrasive conditions.***

Rope will be severely damaged if subjected to rough surfaces or sharp edges. Chocks, bits winches, drums, and other surfaces must be kept in good condition and free of burrs and rust. Pulleys must be free to rotate and should be of proper size to avoid excessive wear. Restraining clamps and similar devices will damage and weaken the rope and should be used with extreme caution. Do not drag rope over rough ground. Dirt and grit picked up by the rope will work into the straps, cutting the inner fibers.

## **CHEMICALS**

***Avoid chemical exposure.***

Rope is subject to damage by chemicals. Consult the manufacturer for specific chemical exposure, such as solvents, acids, and alkalis. Consult the manufacturer for recommendations when a rope will be used where chemical exposure (fumes, mist, or actual contact) can occur.

## **STORAGE, CARE AND TRANSPORT OF ROPE**

***Rope should be stored clean, dry, out of direct sunlight, and away from extreme heat.***

It is generally recommended that rope be stored and transported in a rope bag designated for that use.

Cordage should be kept in a cool, dry and well-ventilated area. It should be kept off the floor, on racks to provide ventilation underneath. Never store on a concrete or dirt floor, and under no circumstances should cordage and acid or alkalis be kept in the same area.

Do not store rope in direct sunlight. Synthetic rope (particularly polypropylene) may be severely weakened by prolonged exposure to ultraviolet (UV) rays. UV degradation is indicated by discoloration and the presence of broken filaments on the surface of the rope. Rope should be cleaned, to remove dirt or abrasive particles, in a mild detergent and cold water. Air dry out of direct sunlight. Washing can remove any coatings that may have been added to enhance the performance of the product.

## **HEAT**

***Avoid overheating.***

Heat can seriously affect the strength of rope. When using rope where temperatures exceed 140°F (or if it is too hot to hold) consult the manufacturer for recommendations as to the size and type of rope for the proposed continuous heat exposure conditions.

Friction from slippage causes localized overheating which can melt or fuse synthetic fibers or burn natural fibers, resulting in severe loss of tensile strength. If rope has been stored at elevated temperatures over a long period of time it can fail under loads below its rated breaking strength. If the user has any doubts concerning the strength of the rope, then the manufacturer should be contacted.

***CAUTION: Heat can seriously affect the strength of synthetic ropes. The temperature at which 50% strength loss can occur in new and unused ropes is: Nylon 350°F, Polyester 390°F.***

## **FIRE AND FLAME**

***Avoid fire and flame.***

Fire and flame impingement will seriously damage all synthetic rope. Damage may occur even if the temperature of the rope and fiber remains below the above listed temperatures.

## **WARNING**

***All synthetic rope under load will recoil if a fitting such as a chain, hook, cleat, bolt, pin or ball-hitch and so forth should fail.***

The snapback action can propel the fitting and the rope causing serious injury to persons or property anywhere in the vicinity. This danger can exist from failure of the fitting within the rope's safe working load. Check all fittings, bolts, shackles, connectors, pins, mountings, splices, and so forth before using.

Additional information on life safety rope can be found in the NFPA 1500, Standard on Fire Department Occupation Safety and Health Program, NFPA 1983, Standard on Life Safety Rope and Equipment for Emergency Services, and ASTM F 1740 Standard Guide for Inspection of Nylon, Polyester, or Nylon/Polyester Blend, or Both Kernmantle Rope.

