



SHERMAN & REILLY

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S&R UNILINE ROPE

S&R Uniline Rope

The Ideal Pulling Rope For Line Construction



FREE of torque and twist

FREE of troublesome elongation

FREE of galloping

FREE from kinking

Uniline rope is available in very long lengths, continuous and unspliced.

**MORE STRENGTH
PER POUND-
MORE ROPE
ON A REEL.**



Made under one or more of the following U.S. Patent Numbers:
3,265,809
3,409,951
3,411,400

* Uniline is a trademark of Yale Cordage

UNILINE - The Strongest Parallel Lay Synthetic Rope for its Size Made Anywhere in the World!

Why use Uniline? Uniline has:

LONGER LIFE - Constructed of yarns laid parallel - no internal breakdown occurs by "cross-over" of strands, as in braided ropes. Uniline rope is made of two parts - the core and the cover. The core is built of essentially parallel yarns. A braided jacket is made around the core. This jacket resists abrasion and protects the inner filaments, which represent the strength of the rope. The outer cover is never under load. As long as the cover is not completely worn through, the rated strength is ensured. The unique parallel fiber construction makes Uniline rope non-rotating, non-kinking. Elongation is extremely low which is very important. A double thickness moisture barrier between the cover and the core locks out moisture improves the dielectric strength.

LOWER OPERATING COST - Ratings shown on the following page for Uniline are average. Because of its unique construction, we recommend the maximum working load on Uniline to be 4 to 1 when used as a pulling rope. Terminations, such as eye splices, develop 100% of the breaking strength of the rope. However, Kellems S&R DUA-Pull grips are the recommended method of terminating the rope when used for pulling lines.

BETTER PERFORMANCE - On the following page, a chart will show that Uniline has a very minimum of elongation when compared to other types of synthetic ropes. We make no super claims for the dielectric strength of Uniline. But we do say that in the event of contact with an energized conductor, and the outside jacket of the rope is burned, the dry core will maintain the full strength of the rope. This has been confirmed in tests that were run by an electric utility company. Because a smaller diameter of Uniline can be used for a particular working load, this means more rope on a pulling drum; and because the diameter build-up is reduced, the efficiency of a drum puller is increased. Uniline is slightly stiffer than other ropes, which is a distinct advantage as the Kellems grip can be applied without special tools, or the necessity to back splice. The stiffness also improves level winding on take-up reels.

In summary, Uniline is by far the best choice for pulling line applications in transmission or distribution overhead construction.





S&R Uniline Rope

Approx. Size	MM	Averaged Rated Breaking Strength*	Weight Lbs.** Per 100 Ft.
3/8"	9.5	6,000	7.0
1/2"	12.7	10,500	10.0
5/8"	15.9	16,800	15.6
3/4"	19.0	24,200	21.7
7/8"	22.2	32,800	30.6
1"	25.4	42,200	38.7
1 1/8"	28.6	53,000	48.8
1 1/4"	31.8	64,500	60.4
1 3/8"	34.9	78,000	73.1
1 1/2"	38.1	92,000	86.9
1 5/8"	41.3	108,000	102.1
1 3/4"	44.5	125,000	118.4
1 7/8"	47.6	144,000	135.3
2"	50.8	164,000	155.0

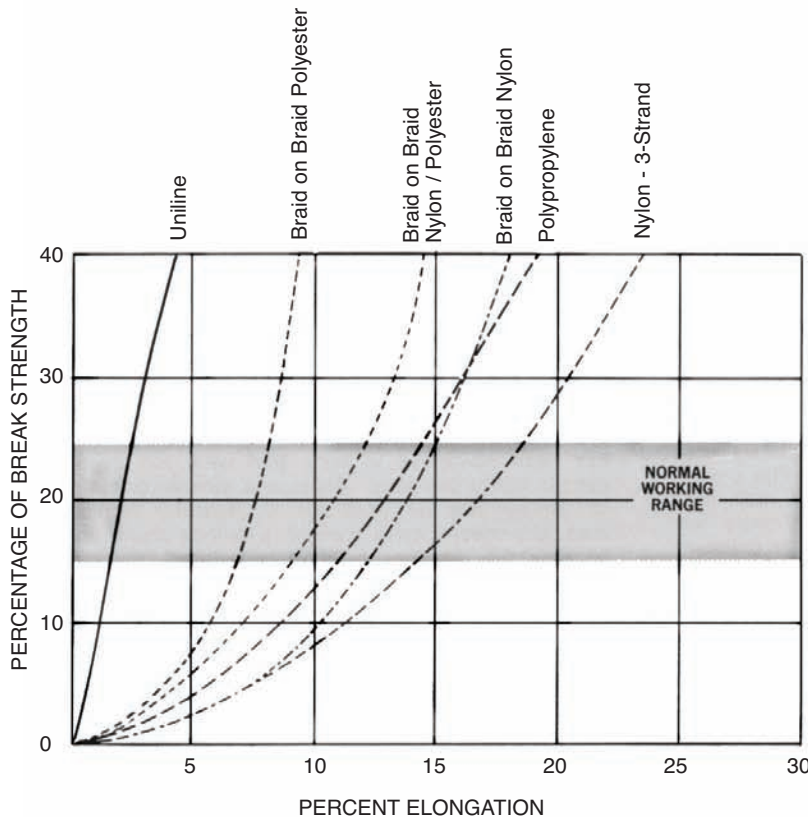
Other Sizes Available on Request

* Break Strengths are average for new ropes tested under laboratory conditions.

** Weights Can Vary +/- 5%.

Uniline is furnished in black as standard.
Other colors also available.

UNILINE - COMPARATIVE ELONGATION



*Dimensions, weights, capacities are approximate. Manufacturer's specifications subject to change without notice.

Working loads for non-critical applications may be figured at 25% of average break strength, assuming normal working conditions and the absence of shock loads and sharp bends. All critical applications (risk to life or property) require a lower working load. Consult manufacturer and Cordage Institute specifications.

When using S&R Kellems DUA-Pull grips, use conductor diameter range as Uniline does not compress under load (see page 6-7). When it is necessary to use a larger grip in order to match the rope strength, the end of the rope should be built up by "whipping" a distance equal to two-thirds the length of the grip.

**Ideal for all
PULLING LINE
jobs,
transmission,
distribution.**





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S&R UNILINE ROPE

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Uniline rope can be spliced easily and the finished job will give 100% of the break strength of the rope. The method used employs the "Chinese Finger Grip" principle. This procedure is quite different from that used for regular ropes and therefore the following instructions are offered.

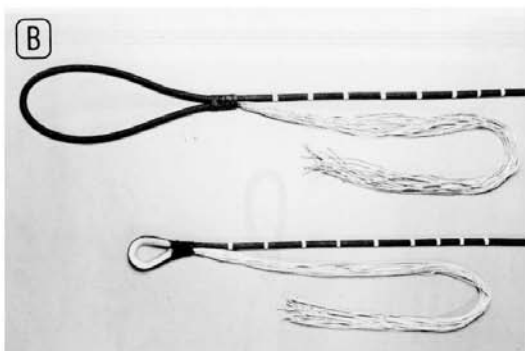
Tools required are: 1) sharp knife 2) flexible waterproof cement 3) heavy whipping cord or twine.



Step 1 The Eye Splice

Remove the braided Uniline cover for a length equal to 90 times the diameter of the rope. (See photo A)

A simple method for removing the cover is shown in Photograph A. It is easiest to have the rope under some tension, as between two vises. Care must be used not to damage the core yarns excessively.



Step 2

(Photo B) Form the eye and clamp or lash (or fit around thimble and lash)

NOTE: For the rest of the splicing procedure, a little tension should be applied to the rope. (See photo C).

Step 3

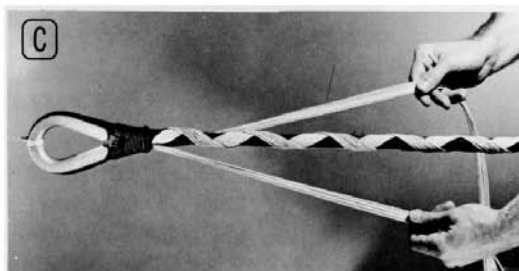
Mark off rope as follows: Mark 6 spaces, each space being equal to 6 times the diameter of the rope - plus 3 spaces equal to 4 times the diameter of the rope. (See Photo B).

NOTE: For extremely high loading or unusually severe conditions (also recommended for ropes over 1 1/2" diameter), mark as follows:

Mark 2 spaces, each space being equal to 9 times the diameter of the rope- plus 6 spaces equal to 6 times the diameter of the rope - plus 3 spaces equal to 4 times the diameter of the rope. (See Photo B).

Step 4

Separate the core yarns and divide into 4 equal bundles. A pair of pliers helps. Start at the bitter end.



Step 5

(Photo C) Individually wrap the core yarn bundles around the rope to the last mark (one at a time and alternately in opposite directions) so that bundle #1 and #3 are going in one direction and bundle #2 and #4 are going in the opposite direction. Make sure that each wrap crosses over at each mark. Tape or lash each bundle at the last mark.

Keep bundles flat when wrapping around the rope. To make a better looking job, the first and second bundles should be wrapped so that they are slightly short of the marks. The third and fourth bundles are then wrapped next to them, slightly beyond the marks but abutting one and two. (See Photos C and D).

The splice at this point will develop the full strength of the rope after all wraps are in place. However, the continued holding power of the splice depends on the tails being secured to the main body of the rope; particularly if the splice is to be run over sheaves or other obstructions that might push it back. For short term emergency use or for testing purposes, the tails can be wrapped one or two more times and securely taped, but for normal use the following procedures are recommended:

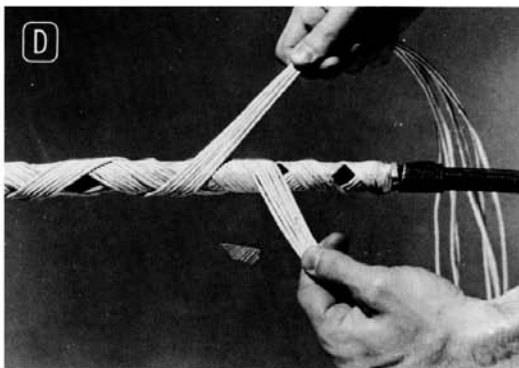
Step 6

(Photo D) Cut yarn bundles #1 and #2 off short after taping or tying at the last mark.

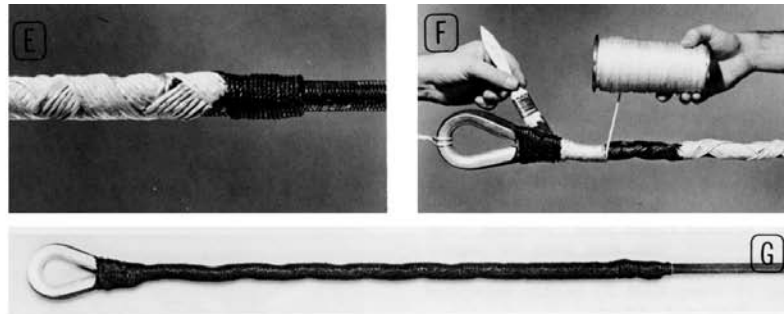
Step 7

Very tightly whip the bare rope immediately after the last mark for a distance equal to approximately 2 times the diameter of the rope. (See Photo D).

A flexible waterproof cement should be applied to the rope where it is to be whipped and again on top of the whipping (e.g. - contact or Neoprene cement).



S&R Uniline Rope



Step 8

Lay yarn bundles #3 and #4 over the whipping done in Step 7 and lash them securely to the body of the rope below the whipped section for a distance equal to approximately 2 times the diameter of the rope. (See Photo E).

The second whipping should start as close as possible to the end of the first whipped section. In this way any pull on the tails forms a self snubbing device. Again, an adhesive should be applied before and after whipping. Alternately, two thicknesses of heavy duty shrink tubing or Punch-Lok® clamps can be used. In either case, the snubbing concept described above should be maintained.

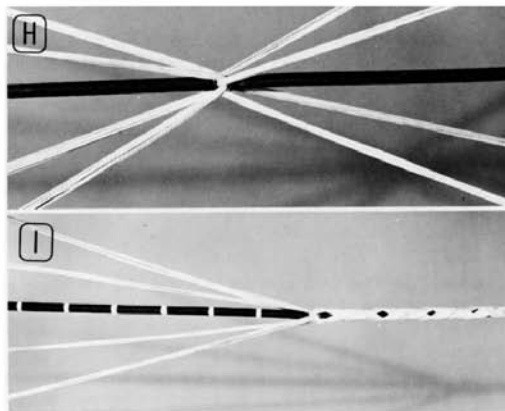
Only a few pounds of holding power are needed for tails #3 and #4, but the performance of the snubbing concept is important.

Step 9

(Photos F and G) For protection, the entire splice should be served with heavy whipping cord or twine. When serving Neoprene or other adhesive should be applied liberally before and after serving to improve performance against abrasion. Shrink tubing or heavy tape can be used for serving if the use is not severe.

NOTE: The only purpose of this last step is to protect the splice from cutting or chafing. The choice of protection therefore depends on severity of service.

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The End to End Splice

(Using the above splicing concept, two lengths of Uniline can be joined end to end.)

Step 1

Both ends are stripped back as for the eye splice above. (See Photo A).

Step 2

The yarns from each end are separated and segregated into four bundles.

Step 3

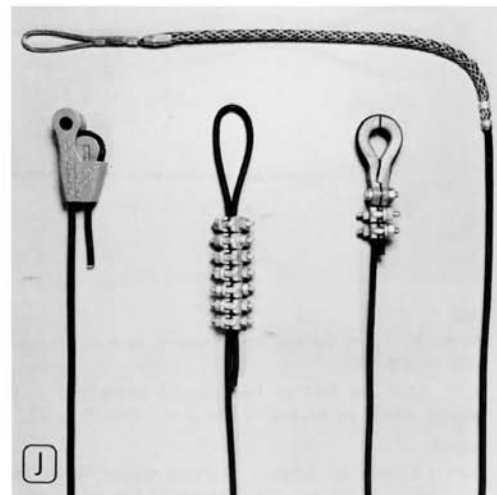
The bundles are now intermeshed so that the yarn bundles are passing each other as shown. (See Photo H).

Step 4

The core yarns from one rope are temporarily clamped or tied to the other so that some tension may be applied.

Step 5

The ropes are now marked and spliced in both directions using the technique shown for Steps 3 through 9 under the "Eye Splice." (See Photo I).



Alternate Terminations for Uniline

(Photo J) A number of mechanical terminations have been used with Uniline and have been proven more successful than with standard ropes. The most successful is the S&R Kellems DUA-Pull Grip (shown in photo J). The other terminations shown in Photo J can be used providing the working load does not exceed 20% of the breaking strength of the rope (i.e. Wedge Clamp, U-Bolts, Combination Thimble Clip- left to right). U-Bolts (wire rope clips) are a fast way of getting an eye on Uniline rope in the field without the use of special tools. These can be put on as tightly as possible without damage to the rope. U-bolts, as for wire rope, should be attached to the U on the tail side, as in photo J.