

X-TREMA LOCK SPLICE PROCEDURE FOR PHILLYSTRAN ROPES: 12-Strand HMPE Braids

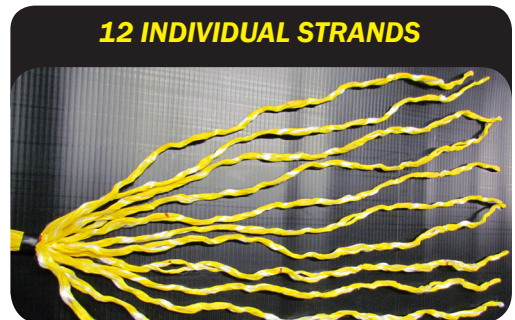
MATERIALS NEEDED: Scissors, Marker, Two colors of electrical tape

STEP ONE – SETTING UP FOR THE SPLICE:

- A. Measure out the tail length.
- B. Length of tail = 44 x bare diameter.
- C. Mark the tail length by wrapping electrical tape tightly around it.
- D. Measure out the eye length.
 - The eye should be at least (30 x bare diameter) for HMPE braids.
 - Measure this length from the tail mark away from the end of the rope.

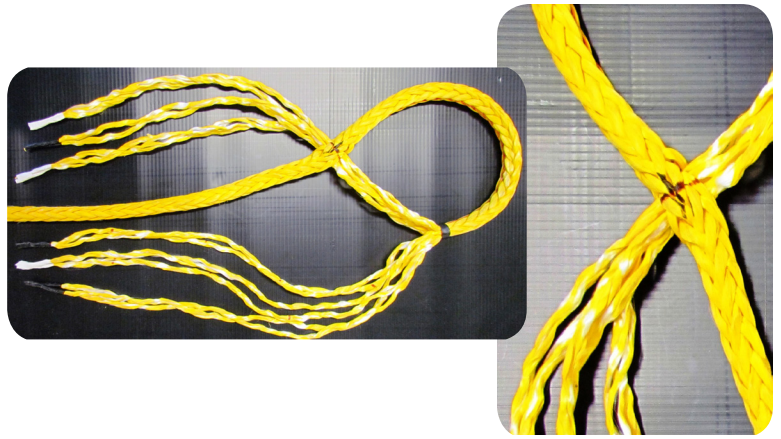


- E. Separate the tail
 - Separate the tail all the way up to the tail mark.
 - There should be 12 individual strands.
 - Tape all of the LHL one color (black).
 - Tape all of the RHL another color (white).
- F. Group the tails
 - Combine the 12 individual strands into 6 groups of 2 strands.
 - They should be grouped by twist direction.



STEP TWO – STARTING THE SPLICE

- A. Insert 2 groups of RHL and 1 group of LHL strands directly through the middle of the braid at the second mark (the mark for the eye) and pull snug to form the eye.



- B. Tuck each group under a single body-strand that is braided in the same direction as the individual strands are twisted (LHL group under LHL strand in body).
- C. Once each of the 6 groups is tucked under one strand each then the “startup” of the splice is complete.



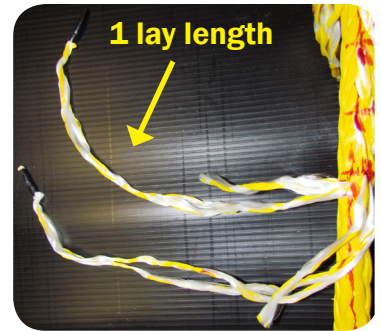
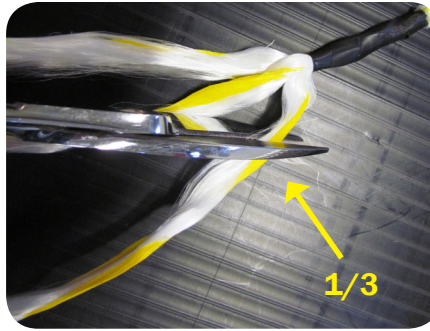
STEP THREE – SPLICING THE BRAID

(Note: The following steps are directionally moving directly away from the eye marks)

- A. Select the center-most group (the group closest to where the two eye-marks meet).
- Separate the group into two individual strands.
 - One of them is to go over the body-strand directly next to it then under the next.
 - The second individual strand is to go under the third body-strand
 - This constitutes one individual tuck.
 - Repeat this step until five individual tucks have been completed.

STEP THREE – SPLICING THE BRAID (cont.)

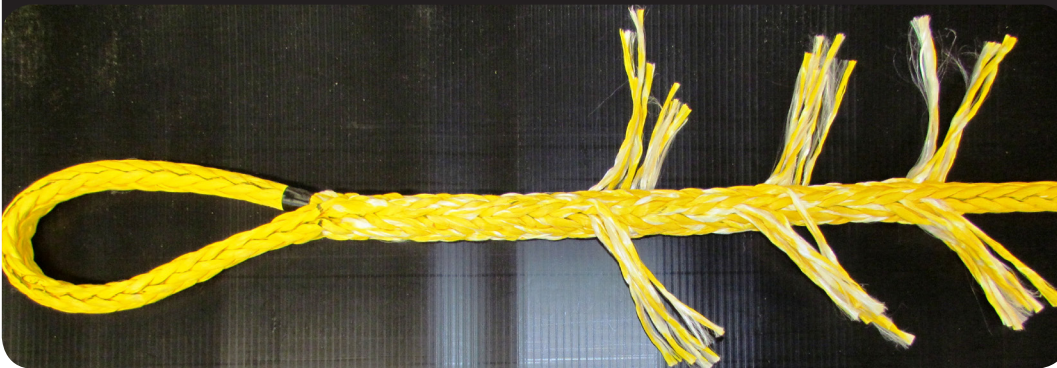
- B. Taper the two individual strands
 - After the first five individual tucks, carefully cut out 1/3 of each of the two strands.
 - Make sure to leave at least the length of 1 lay length sticking out of the rope.
- C. Complete three more individual tucks.
- D. Taper again (remove an additional 1/3 of the strands).
- E. Complete three more individual tucks.
 - When this is complete, then you are 1/6 of the way through step three.
- F. Repeat all of step three for each of the 5 remaining strands.



WRAP UP

- A. All of the tails left outside of the splice must be at least 1 lay length long.
- B. When the splice is first loaded, they will “suck in” to the splice.
- C. The finished splice should be protected in some manner.

AT THE VERY LEAST, THE “FREE” TAILS SHOULD BE SECURED IN A WAY IN WHICH THEY WILL NOT GET CAUGHT DURING USAGE OR TRANSPORTATION.



CAUTION: Break Strength: The breaking strength of a rope is the load at which a new rope will break when tested under laboratory conditions. Break strength should not be mistaken for safe working load. **Safe Working Load:** Because of the wide range of rope use, rope condition and the degree of risk of life or property, it is not possible to make a blanket recommendation for safe working load. It is ultimately dependent on the rope user to determine what percentage of break strength is their own safe working load. **Wear:** Ropes wear out with use; the more severe the usage, the greater the wear. It is often not possible to detect wear on a rope by visible signs alone. Therefore, it is recommended that the rope user determine a retirement criteria for ropes in their application. For assistance in developing safe working load and retirement criteria for each application please call or write Phillystran.

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