

LOCK TUCK SPLICE PROCEDURE FOR PHILLYSTRAN ROPES: PSWR AND PSP

Phillystran® working ropes can be easily spliced in a method quite similar to splicing wire rope. We recommend the French Lock Splice because of its torque resistance and strength efficiency.

The method employed in starting this splice is essentially the same as that followed in making the Liverpool Splice. Measure and mark forty-five (45) times the rope diameter from the end of the rope for the splice tail, then mark the designated eye size, followed by thirty-five (35) times the rope diameter for the body of the splice. Strip the outer jacket of the rope to expose the strands for the body and the tail of the splice. Form the eye of the rope around the thimble or form the soft eye so that the stripped body and base of tails meet. Unwind the tails and tape the end of each strand for ease of splicing. The core should then be cut out. (Caution: Prior to cutting, insure it is the core and not a strand.)



Figure 10

The start of the splice is made as illustrated in *Figures 1 through 6* . *Figure 7* shows the appearance of the splice after the initial start. The first three strands are then given one additional spiral tuck each as shown on *Figure 8* . The next step, as shown on *Figure 9*, is to tuck each strand over one and under two against the lay of the rope until eight (8) tucks have been made.

One complete tuck consists of six individual strand tucks. An additional two sets of tucks should be made with half the yarns in each tail strand cut off. This allows for a gradual taper of the splice, which yields a higher efficiency of the splice strength. The remaining portion of the strands are cut off with about 1/2" of tail showing.

The completed splice should be lashed with a whipping of polyester yarn or similar cord. The whipping provides abrasion resistance for the spliced area. *Figure 10*

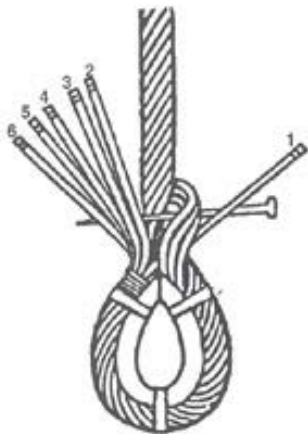


Figure 1

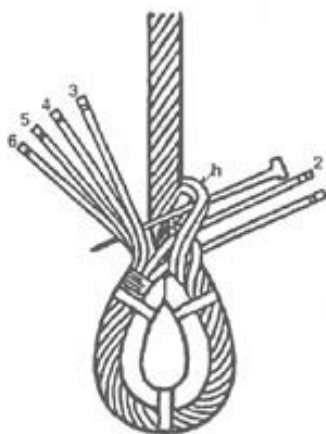


Figure 2

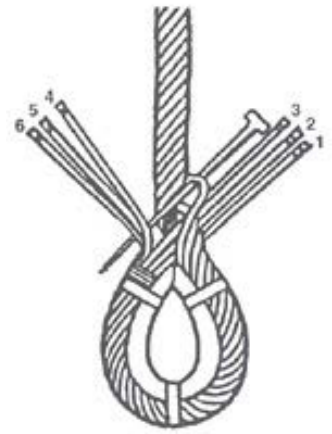


Figure 3

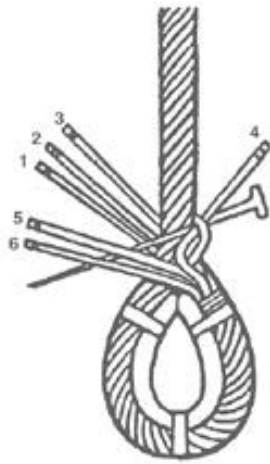


Figure 4

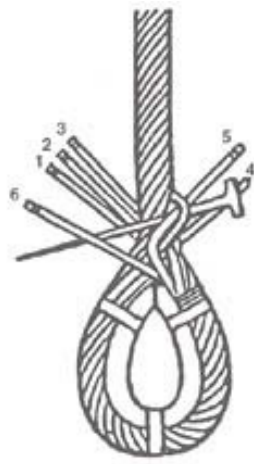


Figure 5

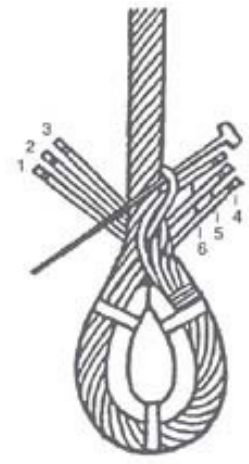


Figure 6

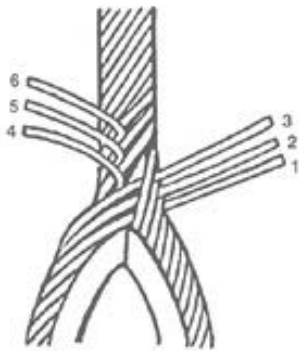


Figure 7



Figure 8

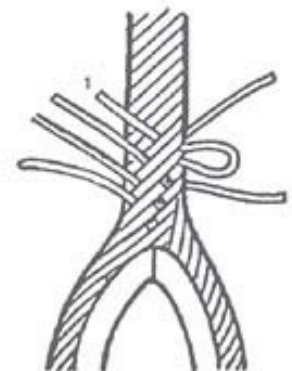


Figure 9

Adapted from Splicing Wire and Fiber Rope by Raoul Graumont and John Hensel (Cambridge, MD) 1955. Pp. 11, 12, 17.

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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