

EYE SPLICING 12 STRAND BRAIDED SYNTHETIC ROPE



1. A splicing fid (aluminum needle) sized for the rope diameter to be spliced. The fid length for this 3/8-inch diameter rope is 8 inches.



2. The first of three fid lengths is marked on the tail which will be buried for the eye splice.



3. Marking off 3 alternate pairs of strands from the first fid mark. The marked pairs will be cut and removed to taper the end of the rope. Note spots on the strands near the end of the marker pen.



4. Marking off the second and third fid lengths on the tail which will be buried.

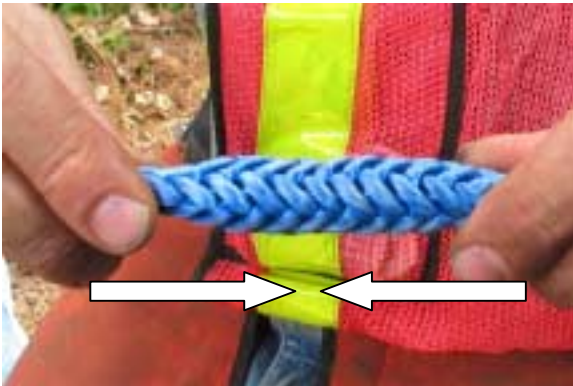
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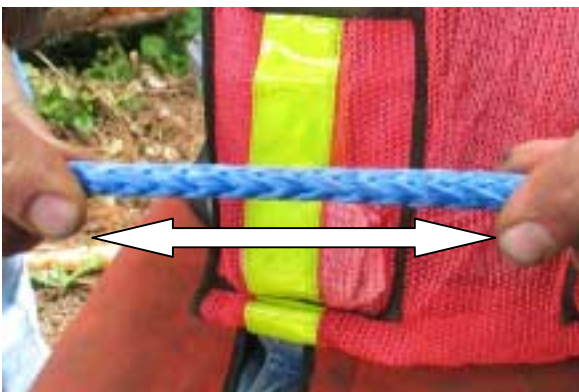
5. Marking off a fid length (or desired length) which will form the loop section of the eye splice.



6. Marking off 3-1/2 fid lengths from the end of the loop section. The 3 fid or desired length tail will be buried into the center of this section to form the splice.



7. In-line compression of the 12 strand rope to open the rope center for fid insertion. Note length shortens, thus the need for 3-1/2 fids to bury the 3 fid tail.



8. In-line extension of the 12 strand braided rope to show rope elongation and re-establishment of the rope cross section after compression.

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9. Initial cut of one strand of a marked pair in the first fid length of tail to be buried. Note black ink spot on marked pairs.



10. Knife blade is inserted under the entire marked strand and a cut is made.



11. Profile of rope with some of the 6 marked strands cut. These strands are ready to be removed.



12. Continuation of cutting of the 6 marked strands (3 marked pairs).

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13. Removal of one of the 6 cut strands by pulling from the cut end away from the tail of the rope.



14. Strand removal continues for all 6 marked strands. One pair will be a fid length long and each successive pair slightly shorter.



15. Fid length tail of rope, showing 6 remaining strands in loose weave.



16. Tapered tail, loose weave, and 6 removed strands.

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17. Stroke loose weave tail from first fid mark to end of tail to establish the taper section.



18. Tapered tail, tight weave, 6 strands. Note strands are cut such that the cut end does not project out from the rope, which aids in burying the tail.



19. End of tapered tail, compressed for insertion into the end of the fid.



20. Insertion of the tapered tail into the fid.

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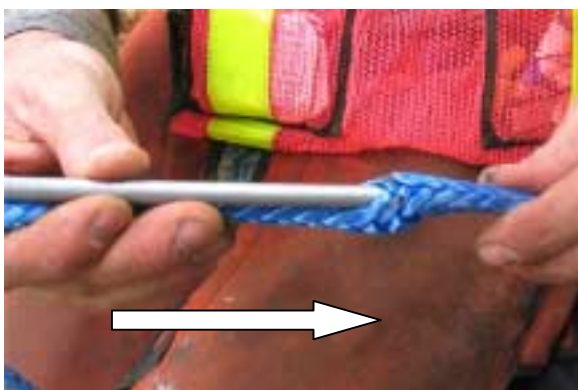
21. Securing the tapered tail to the fid with tape. Masking tape (2-inch wide) is sufficient for small diameter ropes, otherwise use duct tape.



22. Fid is secured to the tapered tail. To aid in burying the tail, tape edges smooth to keep the fid and rope contour.



23. Creation of opening for pointed end of fid by in-line compression of rope (see photo 7). The entry point is 3 fids plus desired loop length from end of tail (previously marked).



24. Insertion of fid point into opening of rope, created by in-line compression of the rope. Insert the fid into the center of the rope, while being careful not to hook any strands.

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25. Stepwise insertion of the fid and attached tapered end into the 3-1/2 fid length bury section.



26. Compression of the rope to open the center for the next stepwise forward progression of the fid.



27. Stroke exterior of the rope bury section towards the eye while maintaining a grip on the pointed end of the fid and/or buried rope. This extends the bury section over the buried tail.



28. Continuation of sliding fid and buried rope toward the 3-1/2 fid (exit) mark. As the tail proceeds into bury section, it is best to grip the tail above the fid when stroking cover of bury section towards the eye. This should prevent pulling the taper end out of the fid (and having to start over).

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29. Bunching (compression) of bury section to facilitate sliding the fid forward.



30. Take care not to pull the taped end of the rope off the fid when stroking cover near tapered end. Otherwise grip the rope above tapered end to keep taped attachment intact.



31. Fid exiting center of rope at or beyond the 3-1/2 fid (exit) mark. The mark in this photo is at the end of the left index finger, with fid point just at the left thumb.



32. Continuation of fid removal from the bury section. Again, take care not to pull the tapered end off the taped end of the fid.

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33. Alignment of the loop section of the rope to create a smooth transition of the buried section at the eye formation point (fid entry point).



34. Stroking the cover bury section and pulling of the buried end to bring the loop into the desired size for the eye.



35. Removal of fid and tape from the tail end. Option to remove 3 more strands (at the halfway point of the 6 strand section) and further taper the end of the buried tail (12 to 6 to 3 strands at the end).



36. Stroking the cover bury section, from the formed eye, towards the exposed tail. This will allow the tail to be drawn into the center and covered.

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37. Tail of the buried 3 fid lengths about to be fully drawn into 3-1/2 fid length bury section to complete the eye.



38. Completed eye splice. Length of buried rope extends from the end of the eye to the pinched rope section in the splicer's left hand.



39. Close-up of the completed eye showing the entry point of the fid into the bury section.



40. Lock-stitching the buried tail section with braided nylon twine and yarn needle. **THIS IS NOT A STRENGTH ELEMENT.** It prevents the manual removal of the buried tail section.

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41. Continue the lock-stitching through the rope for 3 loops created on opposite sides of the rope.



42. Rotate the needle direction 90 degrees and lock-stitch 3 loops on each side of the rope back towards the eye.



43. Approaching the end of the lock-stitch. Note the tail of the twine is extending out from the initial entry point.



44. Final lock-stitch is finished to bring the end of the twine out the same position as initial entry point.

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45. Trying a square knot with twine ends.



46. Finishing the square knot by pulling twine tight. Cover with another overhand knot.



47. Trim the twine ends with a knife or scissors.



48. The end of the fid is used to push the knotted end of twine into the center.

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49. The exterior cover strands are moved into position over the knot for protection.



50. Completed lock-stitching on the eye splice.



51. Prior to use, load (pull-on) the line to 10 percent of it's breaking strength to remove the construction stretch in the rope and eye splice.

Lengths Of Buried Tail and Bury Section For Synthetic Rope Eye And Long Splices

Rope Diameter (inches)	Length of Splicing Fid (inches)	Length of Buried Tail		Length of Bury Section	
		Fids	Inches	Fids	Inches
3/8	8	3	24	3.5	28
7/16	9	3	27	3.5	32
1/2	11	3	33	3.5	39
9/16	12	3	36	3.5	42
5/8	13	3	39	3.5	46
3/4	16	3	48	3.5	56
7/8	18	3	54	3.5	63
1	21	3	63	3.5	74

NOTE: Based on splicing instruction for Samson Rope Technologies AmSteel Blue ropes. Length may vary by rope manufacturer, rope construction and rope fiber. Mention of trade names is not an endorsement by OSU or OR-OSHA.