

End to End Tuck Splice Instruction

TOOLS

- ◆ Electrical or masking tape – 2 different colors
- ◆ Swedish Fid (size determined by strand size)
- ◆ Tubular Fid (size determined by strand size)
- ◆ Pusher
- ◆ Knife or scissors
- ◆ Cut Resistant Gloves



SPECIAL ADVICE

When placing tucks in this type of splice, do not leave the strands too loose or with too much slack. This will allow the tucked strands to elongate the same as the body of the rope thereby preventing loose or bunched strand when the rope is placed under load, thereby creating a balanced load sharing by all strands.

Splicing should be performed on a clean, flat work surface with enough area to lay out sufficient rope and spread out the individual strands as shown below.



INSTRUCTION

Lay rope out on the work surface. As shown in photo1, the surface of the rope is made up of “primary” braided strands that lay to the right and to the left. Starting at the bitter end count 42 strands (either left or right) down from the end of the rope. This is where you will create your “Start Point”.



Photo 1

To create the “start point”, grab a left and a right lay strand at the point where they cross over each other and wrap a piece of tape around it as highlighted in photo 2 (this area looks similar to “ \gg ” and will be referenced as such in the remainder of the instruction).



Photo 2

Using the opposite color, tape the strands where the crossover (“ \ll ”) is in the opposite direction. As shown in Photo 3, this will give you 2 paired strands in opposite directions with different colored tape. When taping, be careful not to uncross the two strands. Perform this step around the diameter of the rope in a straight line. This creates your “Start Point”.



Photo 3

Duplicate the previous steps on the end of the second rope to be joined to establish a Start Point in both ropes. Pull the "Start Points" of the two ropes together and line the rows of strands up as shown in Photo 4. Make sure the bitter ends are pointing in opposite directions toward the standing end of the rope they are to be spliced with.



Photo 4

After the Start Point has been established, begin to unbraid the strands beginning at the bitter end until you reach the taped crossovers at the "Start Point". Tape the end of each pair of strands that corresponds with the crossover taped strands at the "Start Point" (refer to Photo 5).



Photo 5

Join the ropes together at the Start Point of both ropes as shown in Photo 6.



Photo 6

Combine the paired strands by starting any one set of the opposing paired strand with the same color of tape and same “ \gg ” direction by inserting one pair of strands between the strands of its opposite pair as shown in Photo 7.



Photo 7

This step is alternated (right, left, etc.) as you join the pairs around the rope until all 12 paired strands have been joined until you have the joined ends as shown in Photo 8. During this step, ensure not to uncross the taped sections in the paired strands at the crossover points.



Photo 8

Once all paired strands have been joined, begin to tuck the pairs. One complete tuck consists of passing a paired strand over one strand and under two strands in the body of the rope. Pull the paired strand through and repeat on opposite paired strand, ensuring the tucks are straight down the body of the rope as shown in Photo 9 (“Over One – Under Two” pattern is also highlighted in Photo 11).

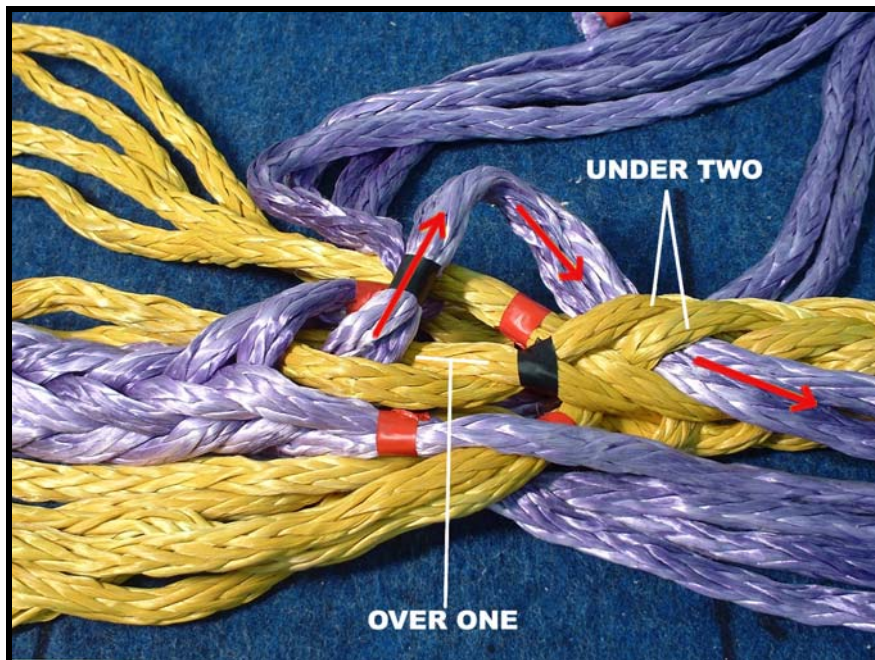


Photo 9

Do one complete set of tucks for every paired strand. As discussed in the special advice section, pull on the strands so they are not loose or slack. Once each paired is tuck, the splice will look as shown in Photo 10



Photo 10

Complete four more tucks of the splice with all six paired strands on each side. Once complete, you will have a total of 5 tucks in both directions. Each paired strand will always be tucked under the same line of braid so that the tuck progresses straight down the body of the rope as shown in Photo 11.

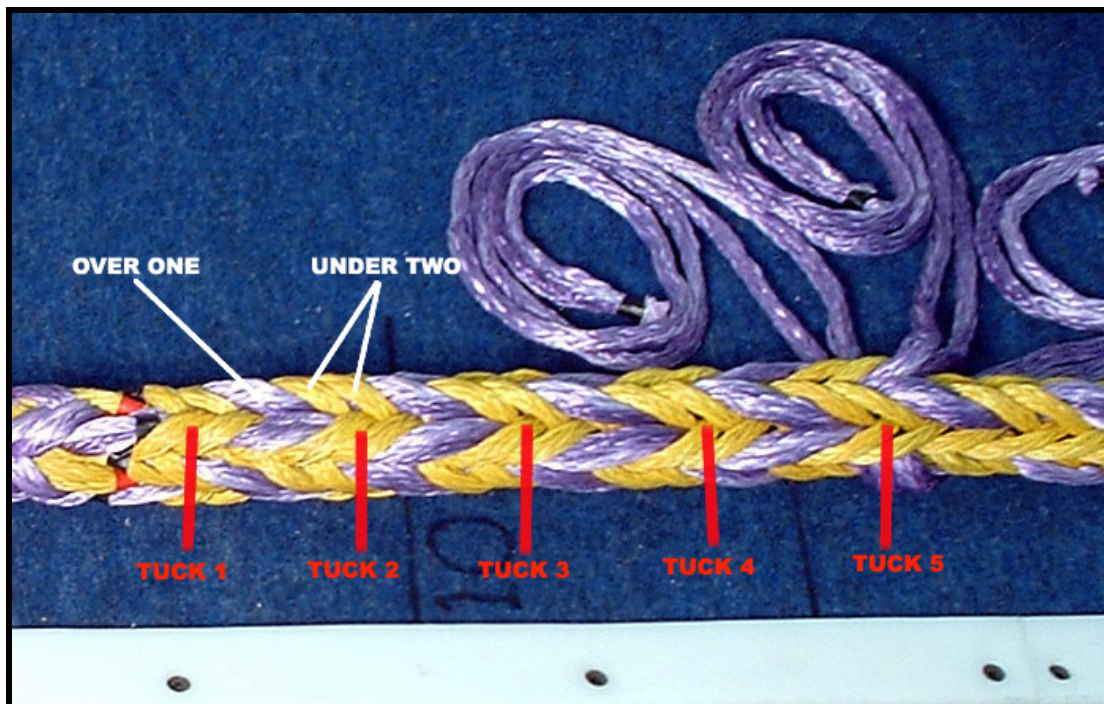


Photo 11

After completing the first five tucks on both sides, drop every other paired strand (tape should all be the same color) and perform four more tucks on both sides with the remaining paired strands. A complete set of tucks on one side of the splice is shown in Photo 12.

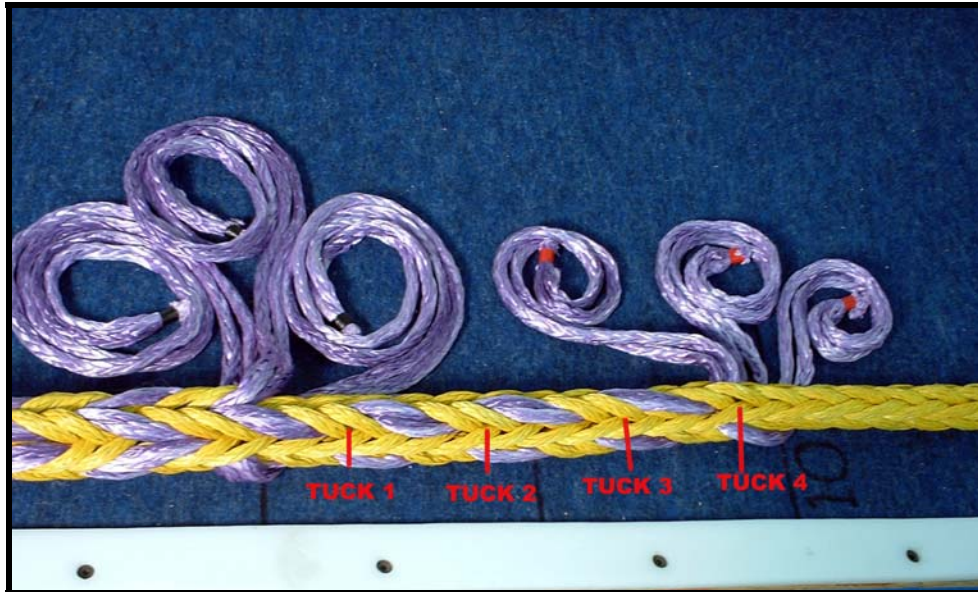


Photo 12

After completing the set of four tucks, remove the tape from the paired strands used in the tucks. Drop one strand from each pair and perform three more tucks with the remaining single strand from each paired strand as shown in Photo 13. Once you have completed the last three tucks with the single strand, your rope should look similar to Photo 14.

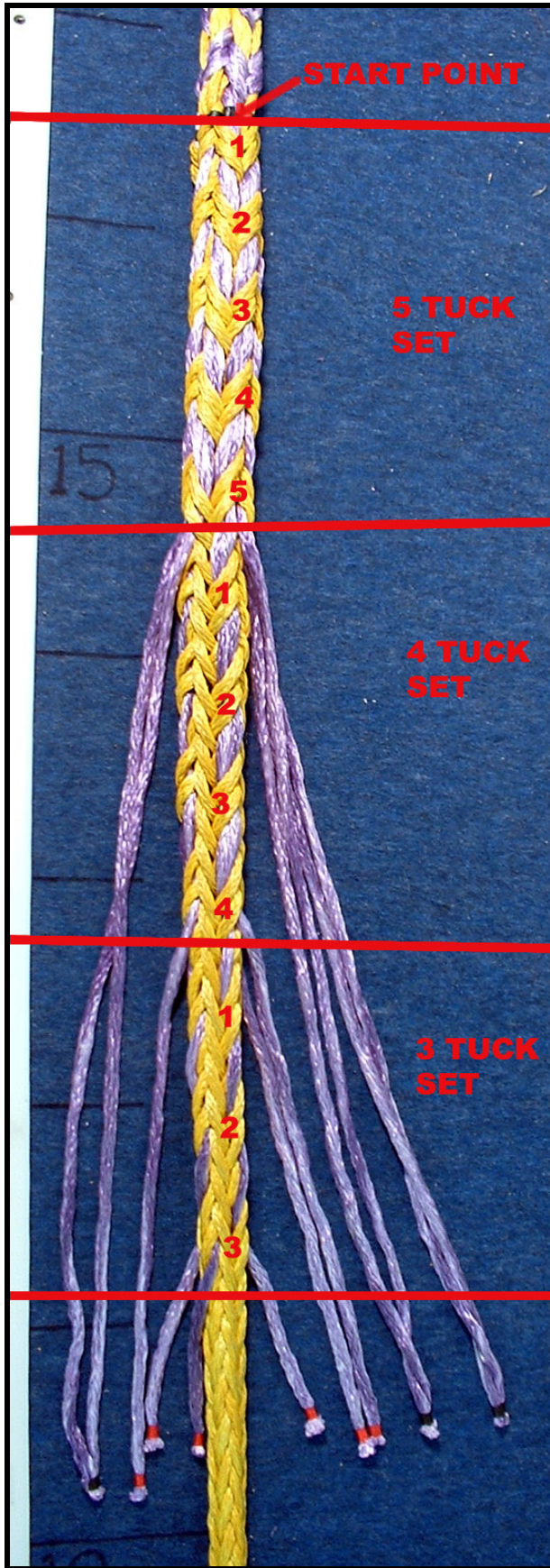


Photo 13

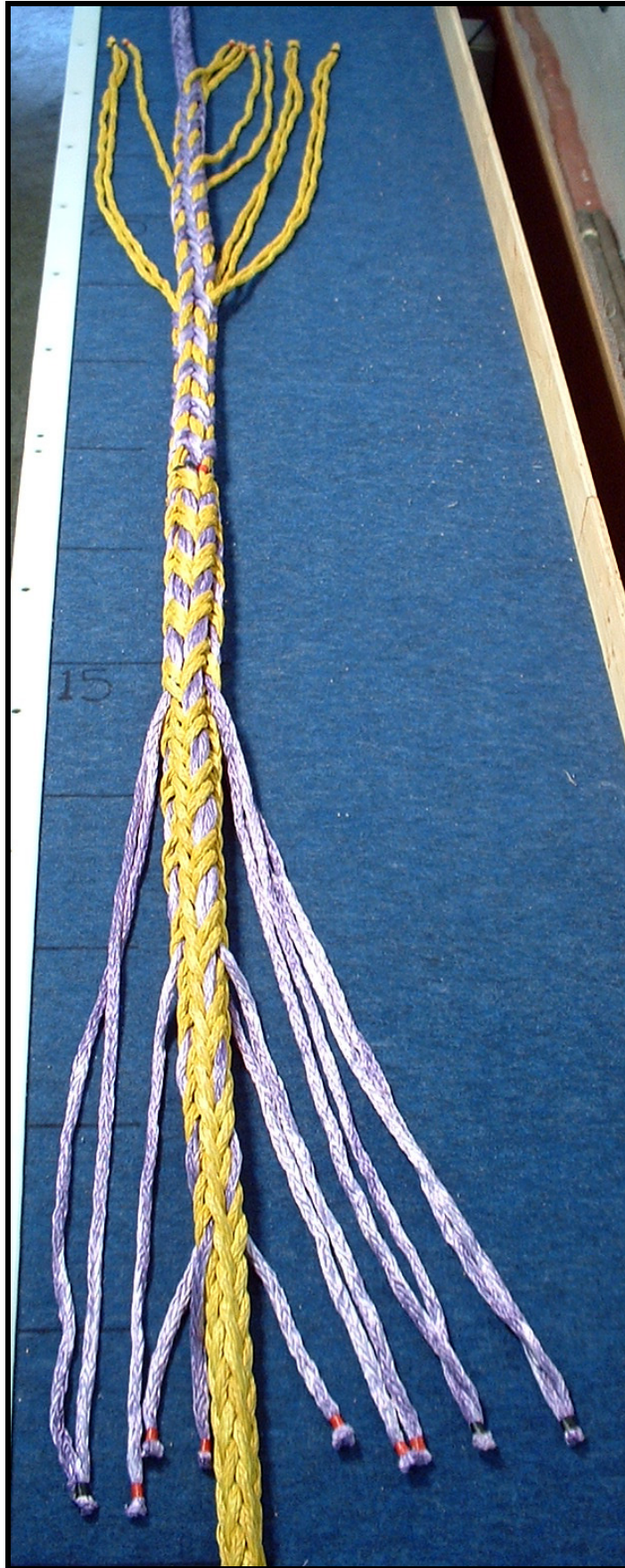


Photo 14

Tails can be trimmed and left protruding from the body of the rope or can be tucked into the body of the rope to streamline the appearance. The performance of the splice is not affected by either method. Before tucking the tails into the body, pull on each of the tails to remove any slack in the tucked strands. Once the tails are buried it will be much more difficult to remove the slack.

Starting with the single strands at the bottom of the splice, use a tubular fid and insert it into the center of the rope at the exact point where the strand comes out of the last tuck. Exit the fid a *minimum* of 7 strands towards the standing end of the rope as shown in Photo 15. Bury the strands deep enough so that there is just enough tail to pull the strands tight before trimming.



Photo 15

Pull/push the strand through the center of the rope with the fid and pusher and exit the center of the rope. There should be a short tail left that can be used to remove slack before trimming as shown in Photo 16. Repeat this step for the remaining 5 single strands. (All singles strands should be of the same color tape)



Photo 16

The strands that are still paired at the end of initial 5 tucks need to be split. Take one of the paired strands and bury for 7 strands exactly as done in the previous step. The second strand should then be buried for an additional 5 strands for a total of 12 strands as shown in Photo 17. This will help keep the taper throughout the entire length of the splice.

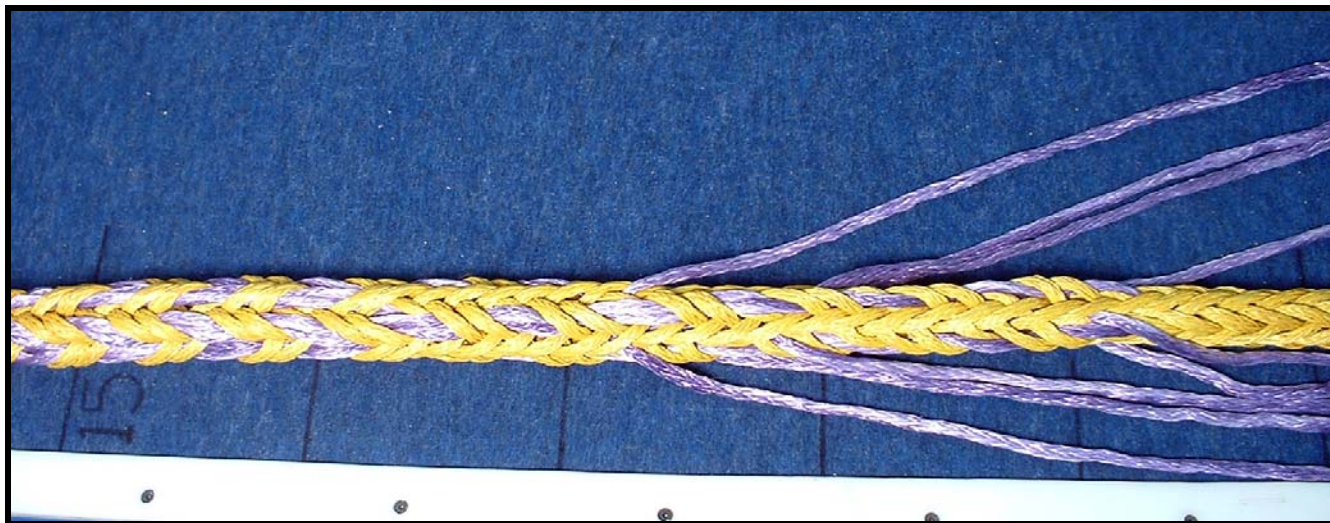


Photo 17

Once all strands have been buried through the center of the rope, pull on the tails to remove any slack in the tucks. If possible place the rope under a nominal load to help seat the strands. Release the load.

Being very cautious cut the tails protruding from the rope as shown in Photo 18. The personnel cutting the tails must be very aware of surroundings and conditions of the vessel. **DO NOT NICK OR CUT THE BODY OF THE ROPE.**

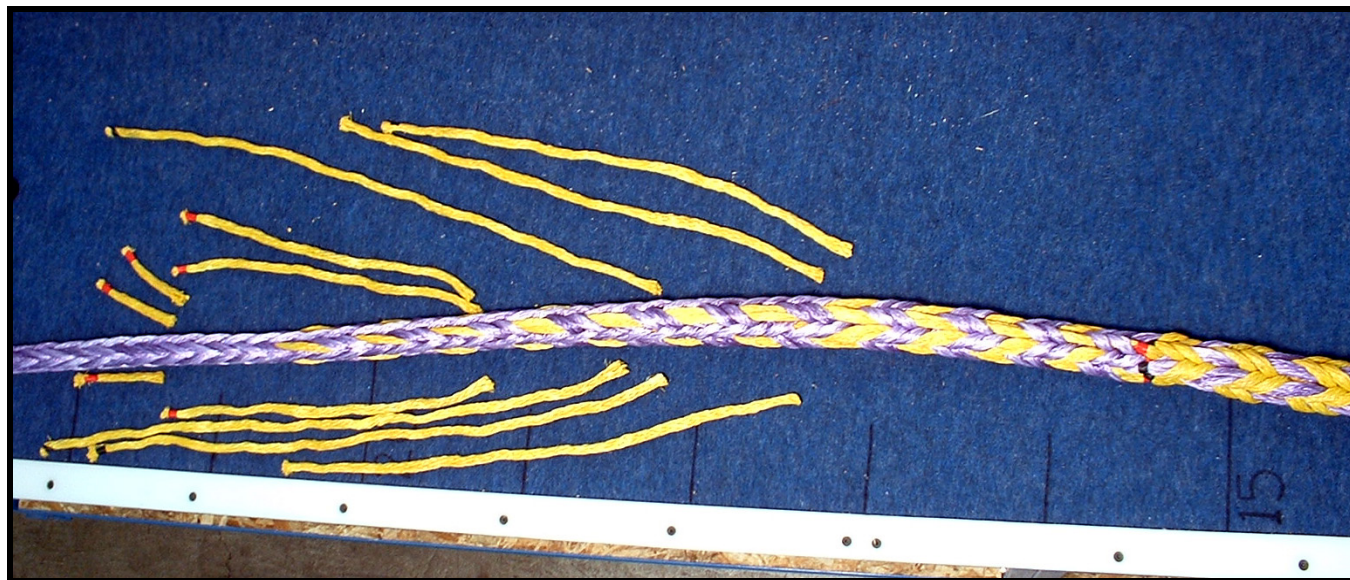


Photo 18

Photo 19 shows how the buried strand should look at the insertion point.



Photo 19

At this point and if possible, place a nominal load on the rope to set the splice and pull any remaining tails into the center of the rope.

Photo 20 shows how the splice should look when finished.

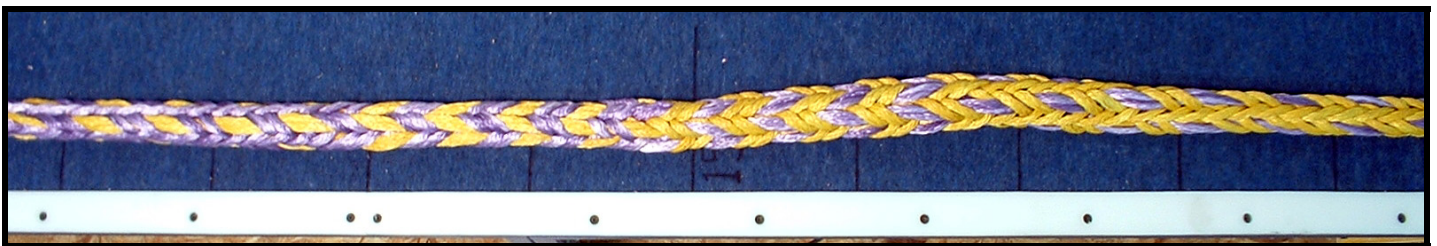


Photo 20