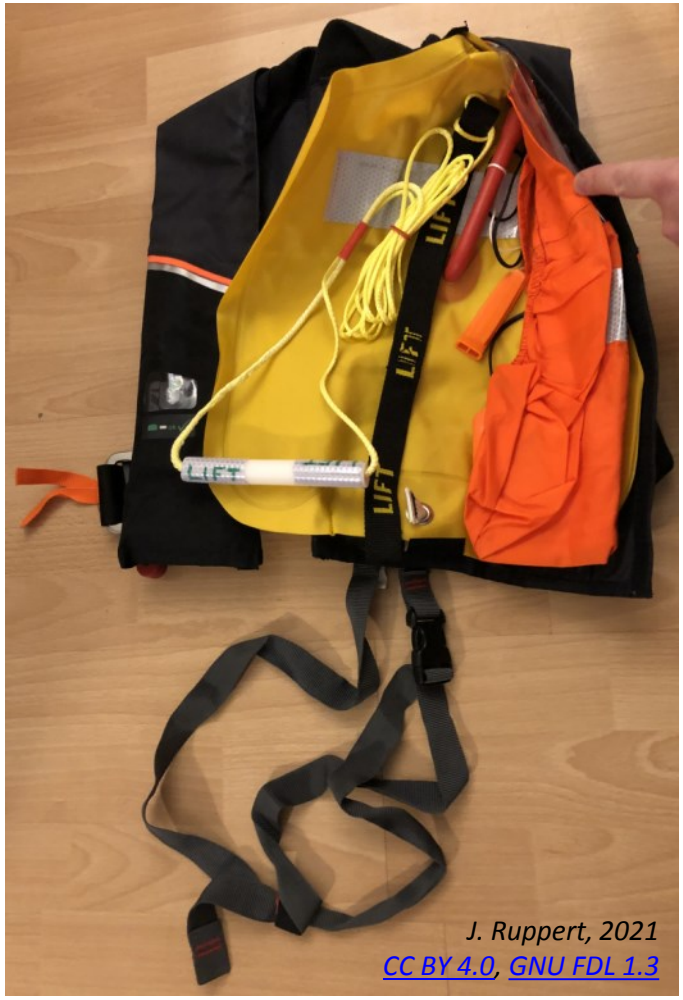
Use of personal rescue loop attached to a life belt or lift strap

A similar personal rescue loop is commercially available from http://moblifesavers.com/. It is approved for several life jackets.

The website also provides further detailed instruction on:

1. How to fit it to the life belt or lift strap of a life jacket
2. How to use it for the rescue of a person over board

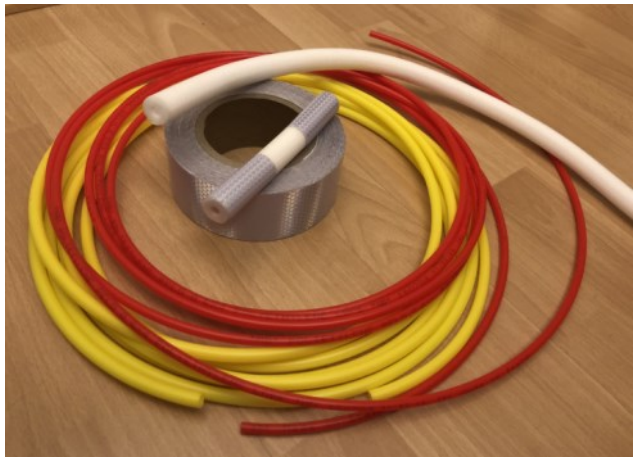


Personal rescue loop with floating lift handle

Required parts

Material:

- 4 m dyneema line, 3 mm diameter, yellow, 12 strand hollow braiding, > 800 kg or 8 kN breaking strength
- 14 cm closed foam tube, OD 18 mm, ID 6 mm
- 13 cm PE pneumatic tube, OD 8 mm, ID 6 mm
- 13 cm PE pneumatic tube, OD 6 mm, ID 4 mm
- 3 cm of shrinking tube, 6 mm diameter
- 20 cm x 5 cm adhesive reflective tape



- Wipping twine (or strong dental floss)
- Small kitchen rubber band for gathering coiled line and attaching it to the air addition tube of the life jacket
- Optional: 25 cm of 25 mm diameter shrinking tube as pouch for the personal rescue loop

Tools:

- Sharp cutter
- Cutting board (strong wood board works well)
- 30 cm ruler
- 2 or 4 m measure
- Hot cutter with temperature adjustment (if available), for cutting off 4 m length of dyneema line from a longer coil
- Splicing fid for 3 mm line diameter
- Needle
- Water permanent marker for indicating the word “LIFT” on the handle

Personal rescue loop*
with floating lift handle

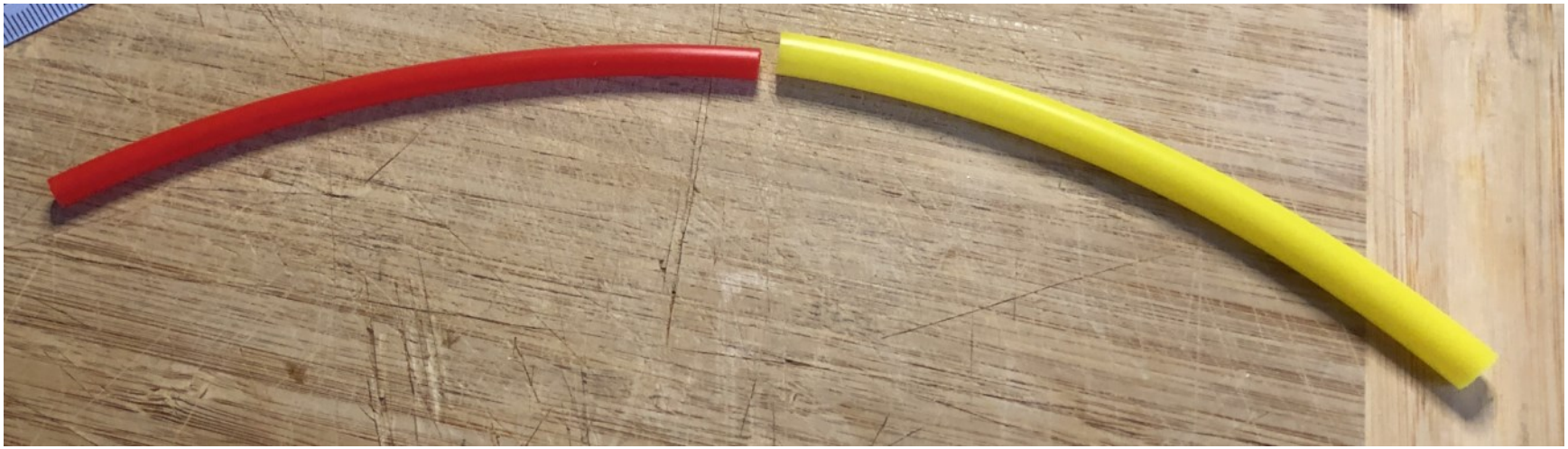
The personal rescue loop is attached to the life belt of a life jacket or a strongly connected short lifting strap. It is fitted into/onto the life jacket and extends to 1.6 m with a strong dyneema loop. This allows easily catching the loop with a boat hook and fixing it preliminarily to a cleat on board. The strong handle is floating on the surface of the water and reflecting. A well worked dyneema loop should be strong enough to lift a person with a tackle or halyard from the water on board.

* Very carful work with dyneema line is required to assure the strength and safety of the dyneema loop and splice. Use as life saving equipment must rely on the professional assessment of the materials used, the individual work process and its result as well as regular check of the equipment before use. Therefore, this instruction is subject to an absolute disclaimer of warranty and waiver of liability (see also CC BY 4.0 license).

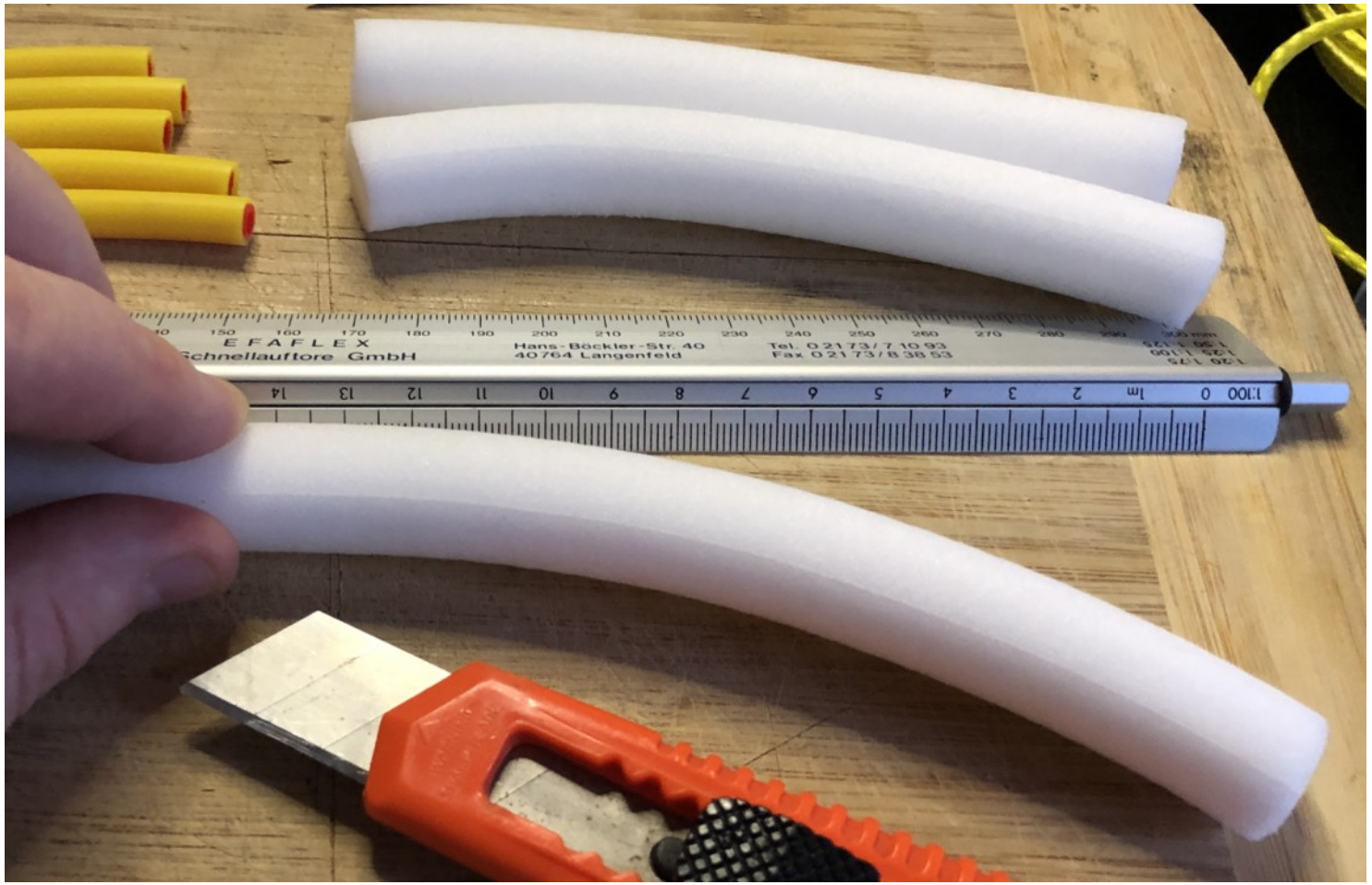
Components	weight	material est. cost
14 cm handle, reflective, 18 mm diameter, buoyant by use of closed foam tube with robust PE tubes inside	8.7 g	1.70 €
1.6 m loop length from 4 m dyneema hollow braided line, 3 mm diameter, > 200 kg working load*	18.4 g	3.40 €
Complete rescue loop with floating lift handle as additional equipment for life belts and life jackets	28 g	6 €

Cut 13 cm tube length of 6 mm and 8 mm tube

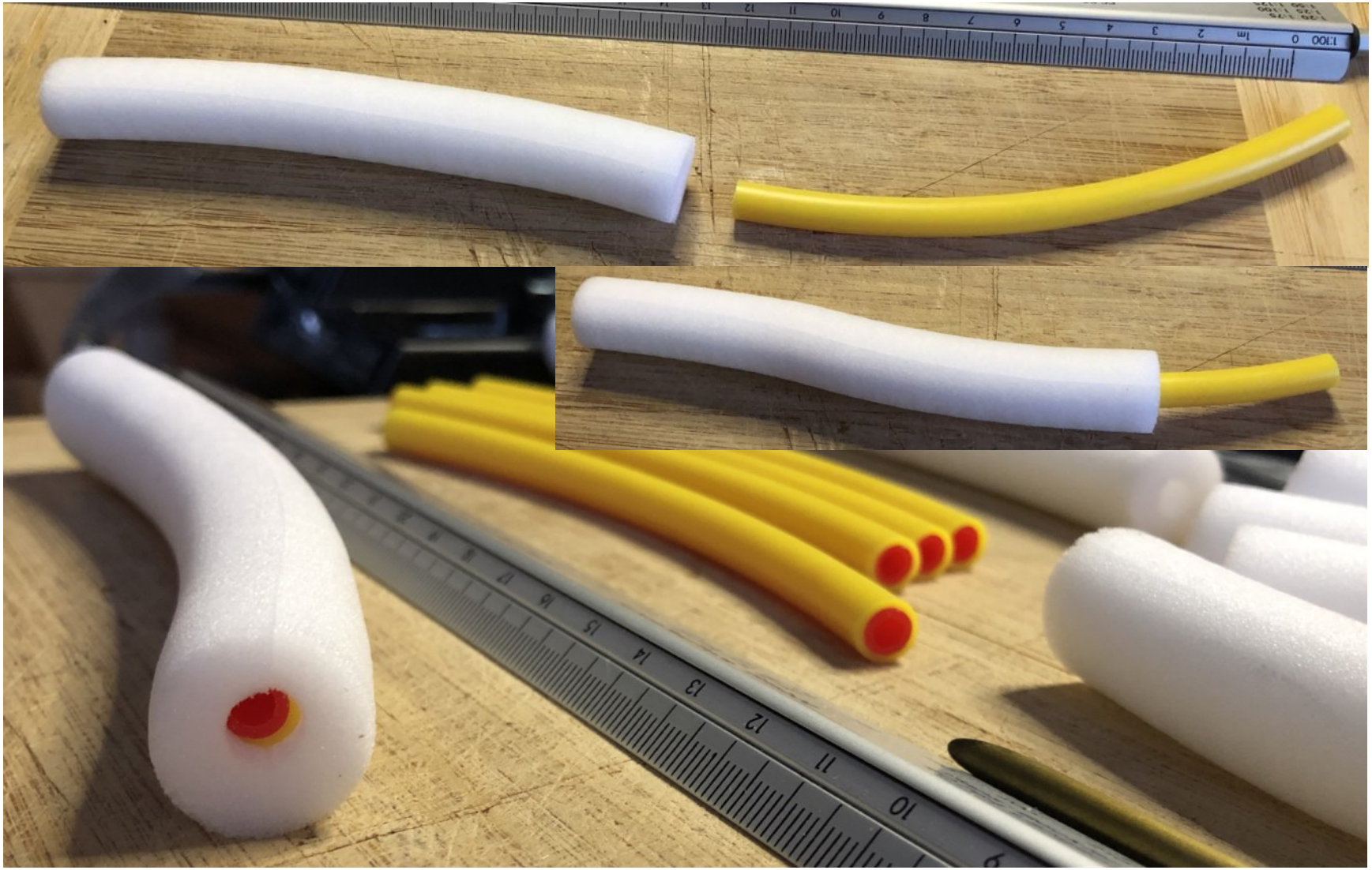
Insert 6 mm tube in 8 mm tube



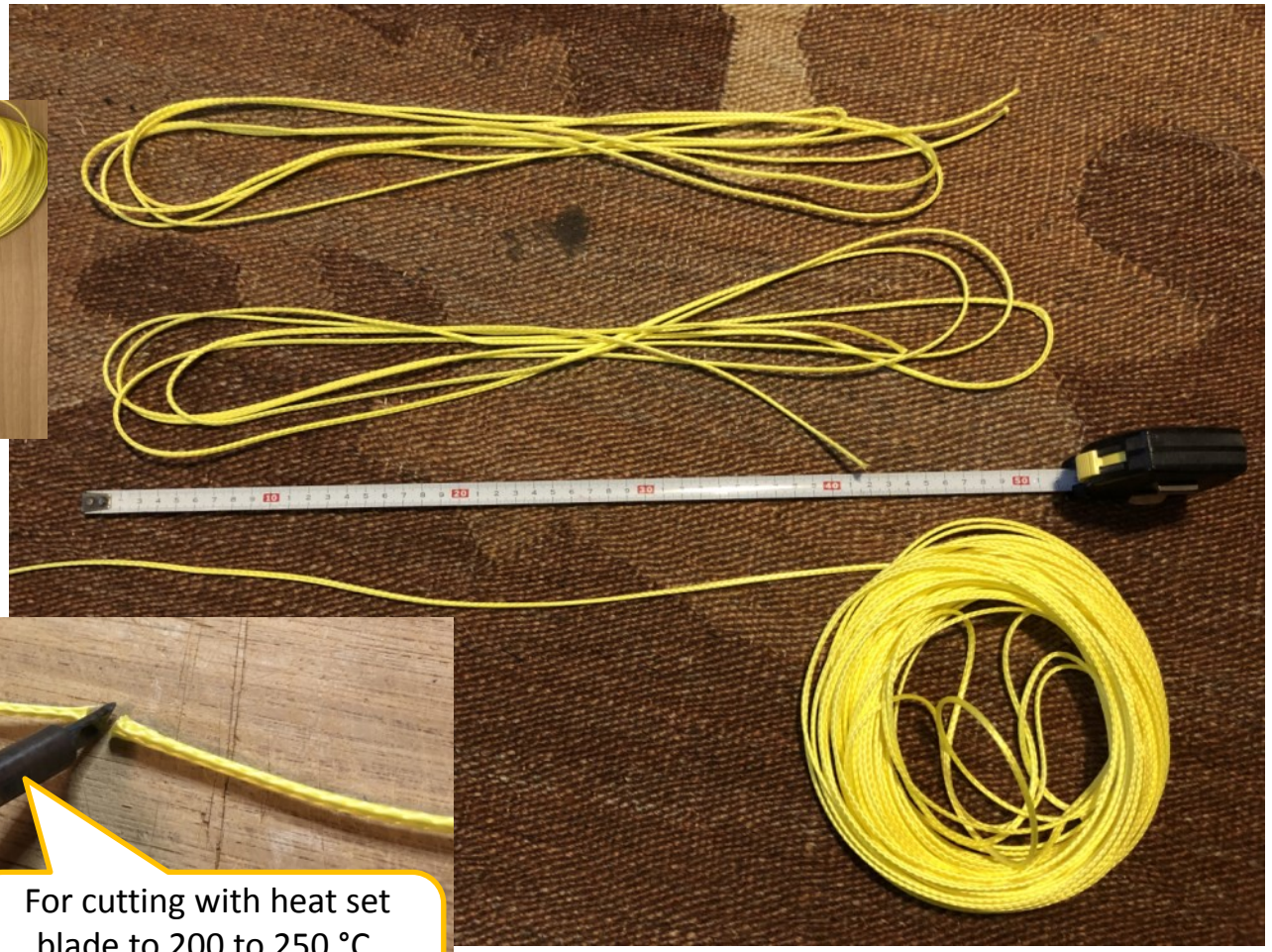
Cut 14 cm foam tube



Insert 8 mm tube in foam tube

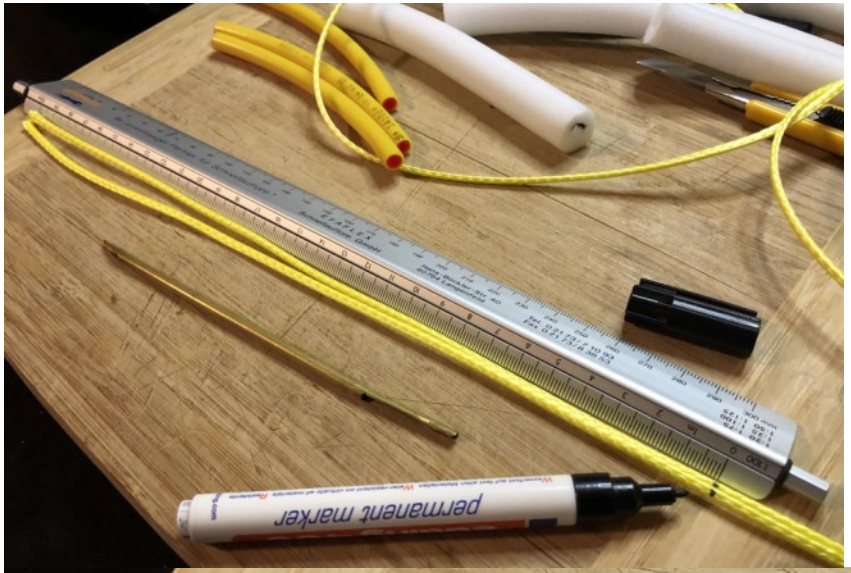


Cut 4 m of 3 mm OD dyneema



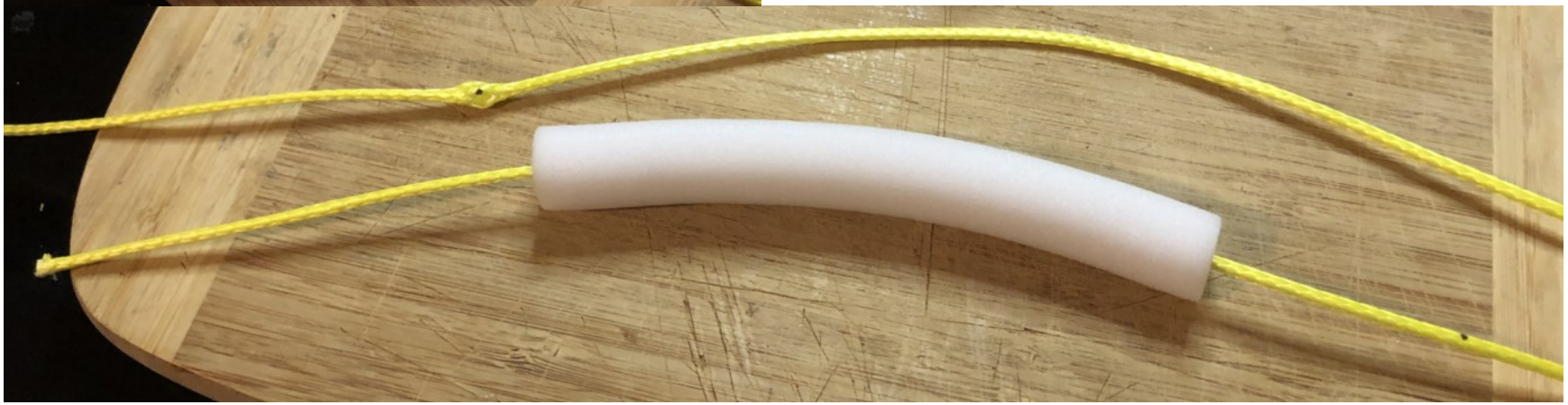
For cutting with heat set blade to 200 to 250 °C, i.e. above ca. 150 °C melting point of dyneema.

Prepare to form a line loop with a connecting splice. Mark 30 cm and 65 cm from each end.



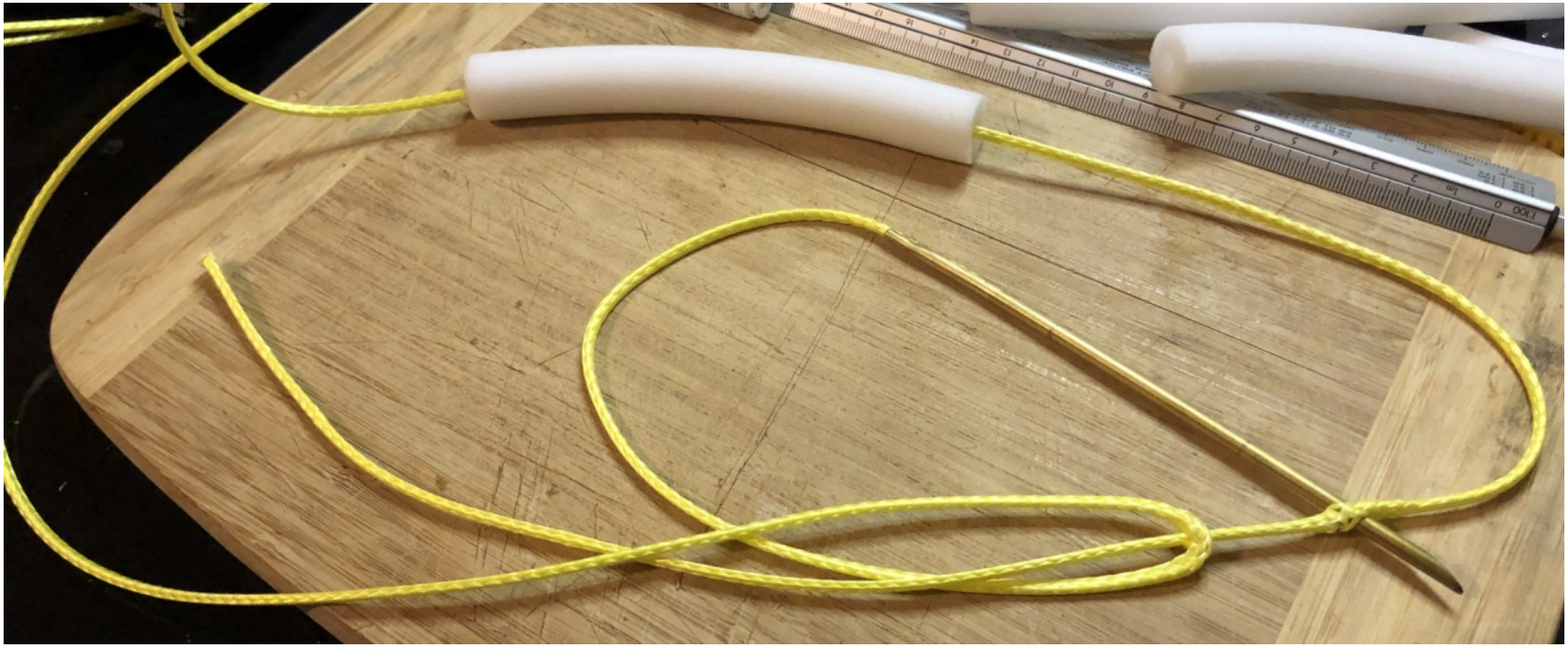
The 300 mm : 3 mm ratio of the two line ends in the connecting long splice provides length for 100 mm of smooth tapering at each end and maximum safety of the joint.

Insert 3 mm line through 4 mm ID tube so that it will sit in the loop.



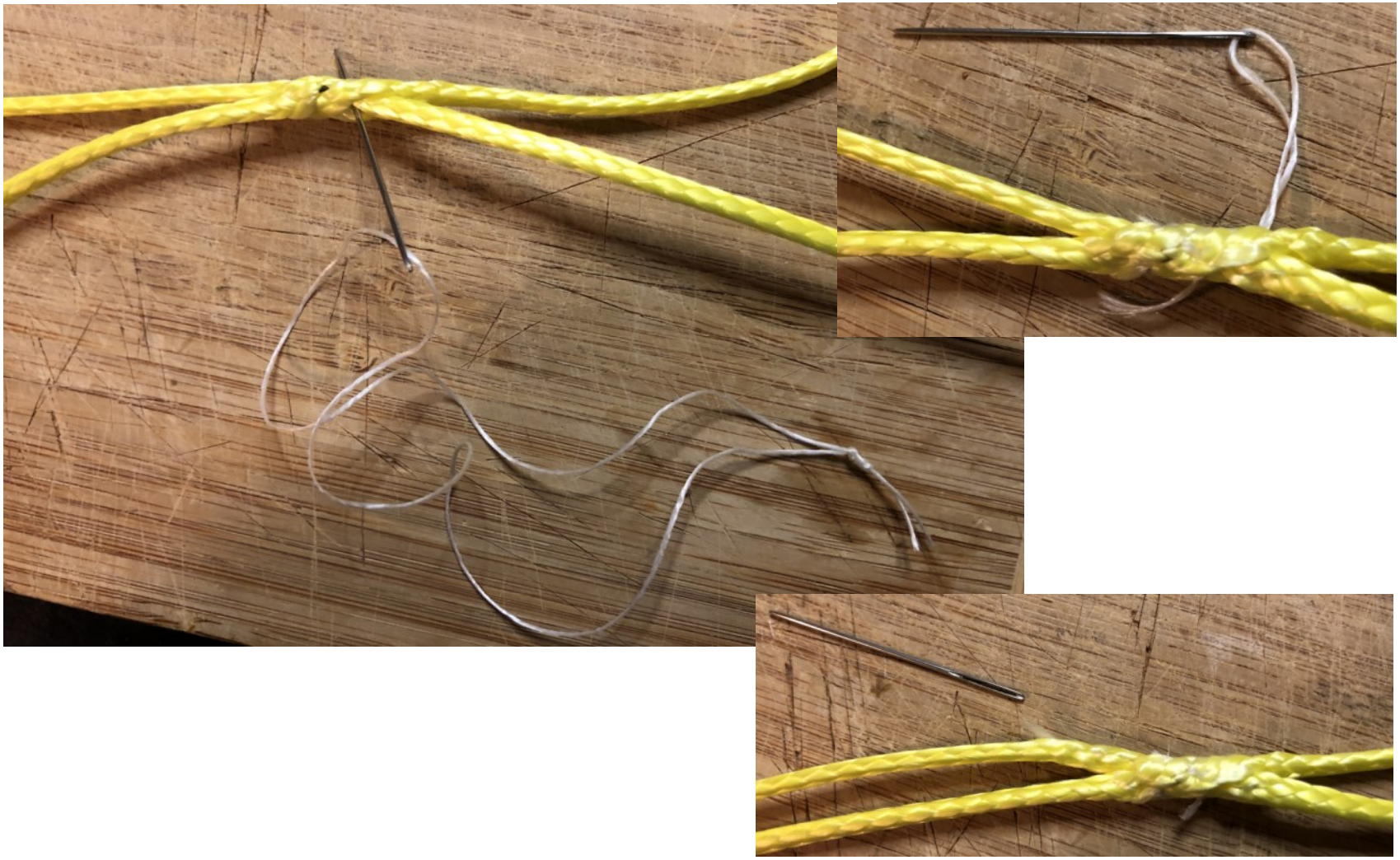
Use splicing fid for crossing of line at 30 cm from the opposite end

Vice versa use the other end for a second crossing at 30 cm off line end

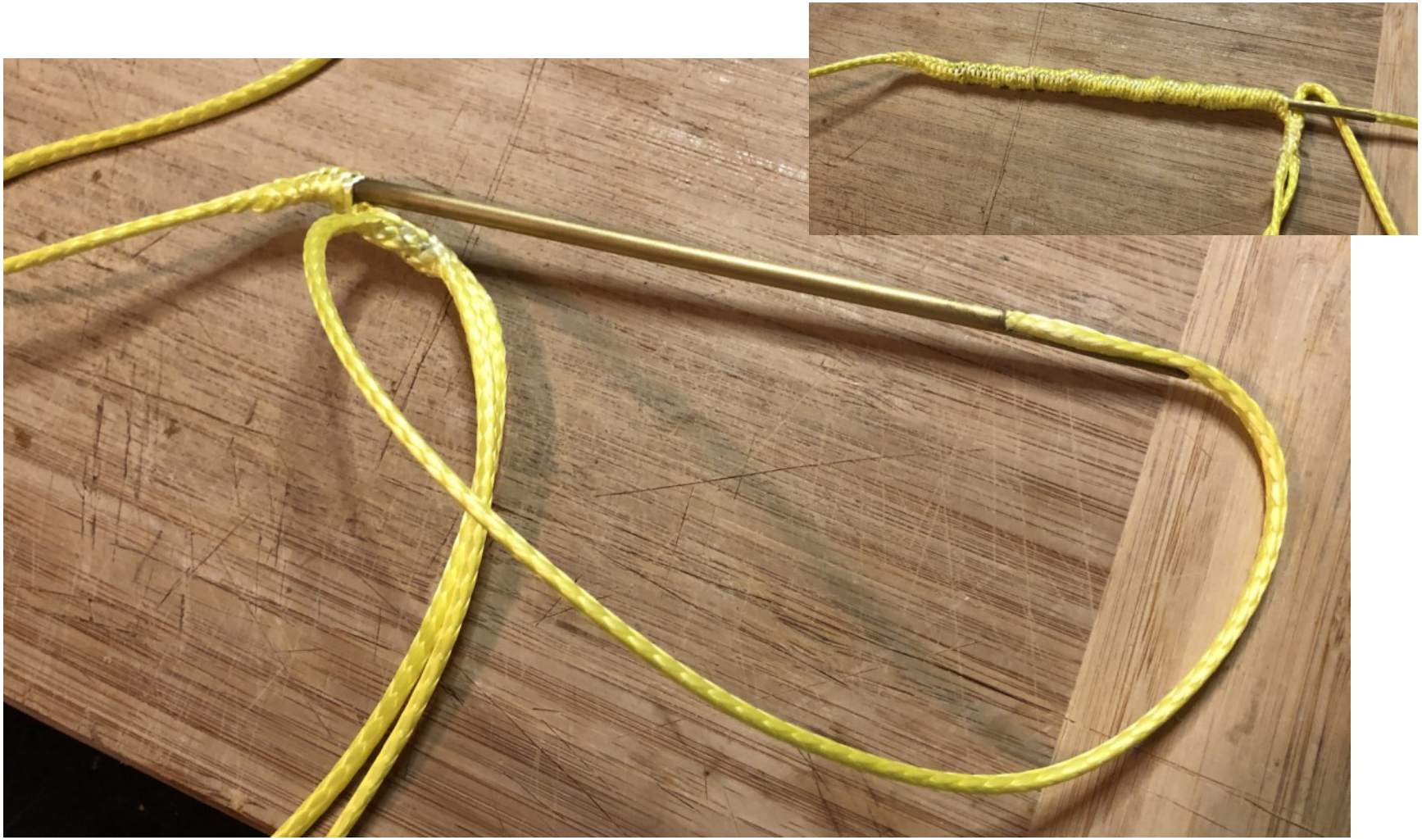


Pull both 30 cm line ends to join the crossings and to form a close joint

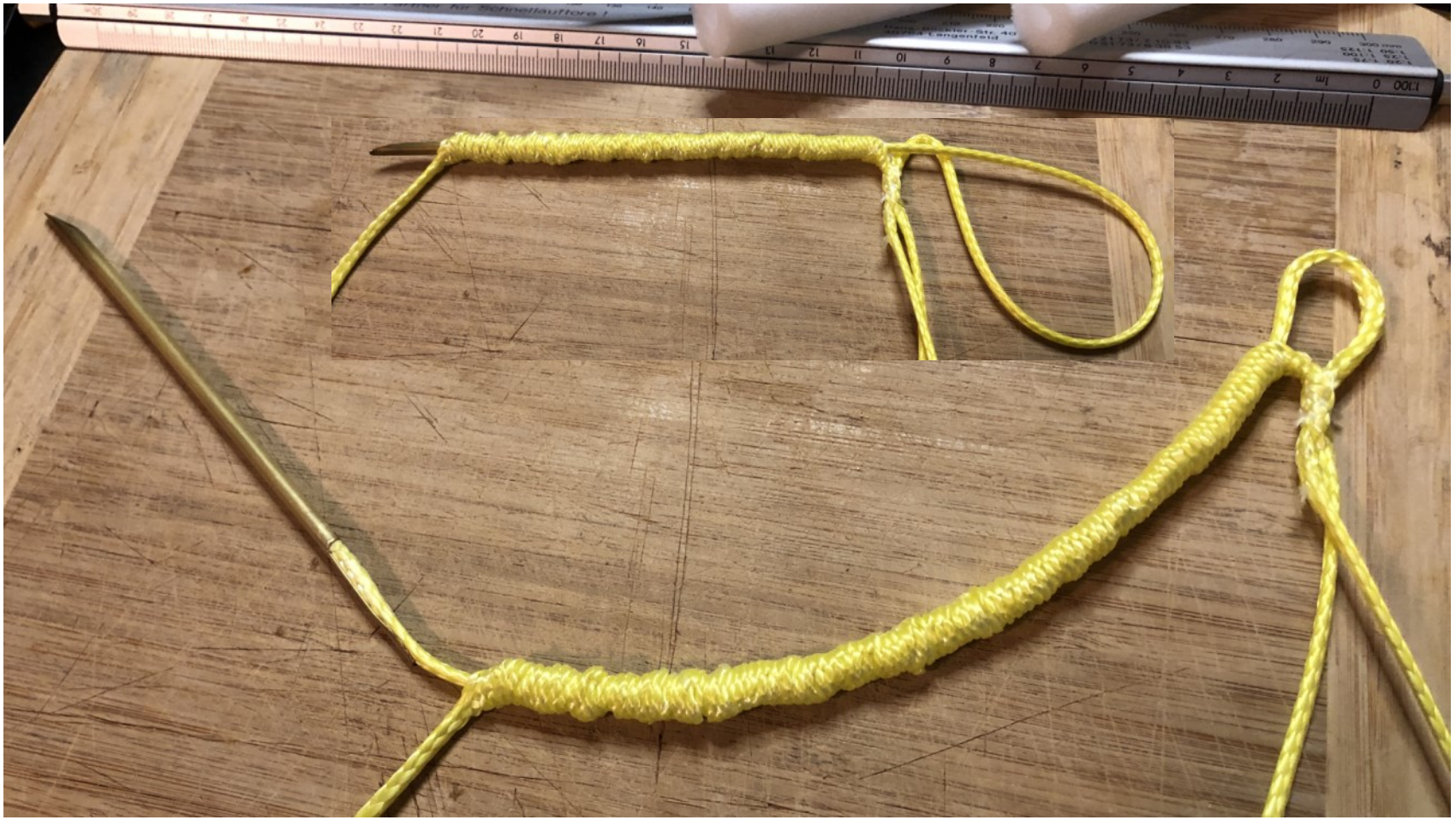
Secure the joint with several stitches



Carefully insert line end into the centre of the line part, which forms the loop



Leave the centre of the braided line at second 65 cm mark, and pull through completely

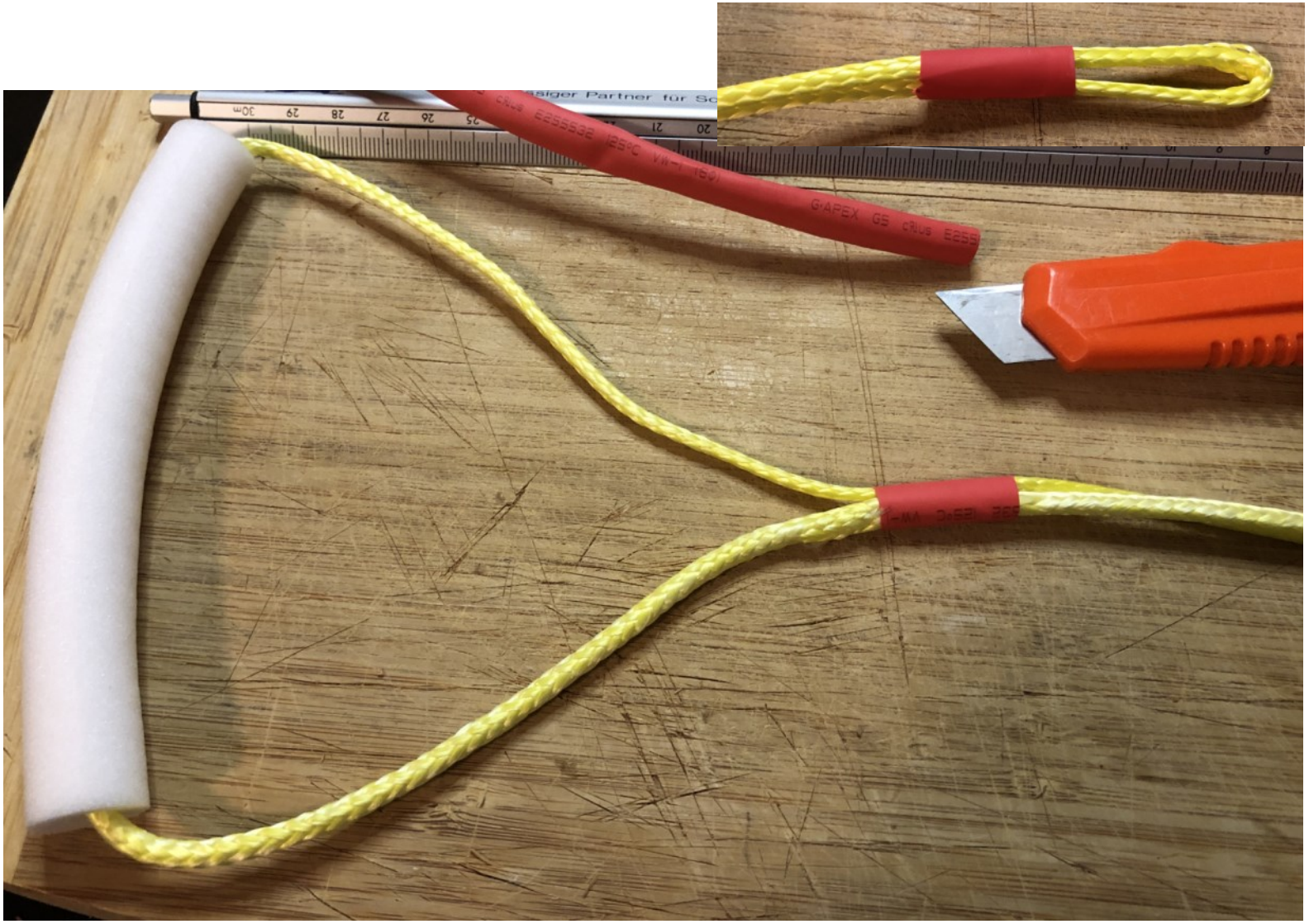


Pull the last 10 cm of the end out and extract individual strands of the braided line in equal distances. Cut to create a tapered line end smooth run of the splice

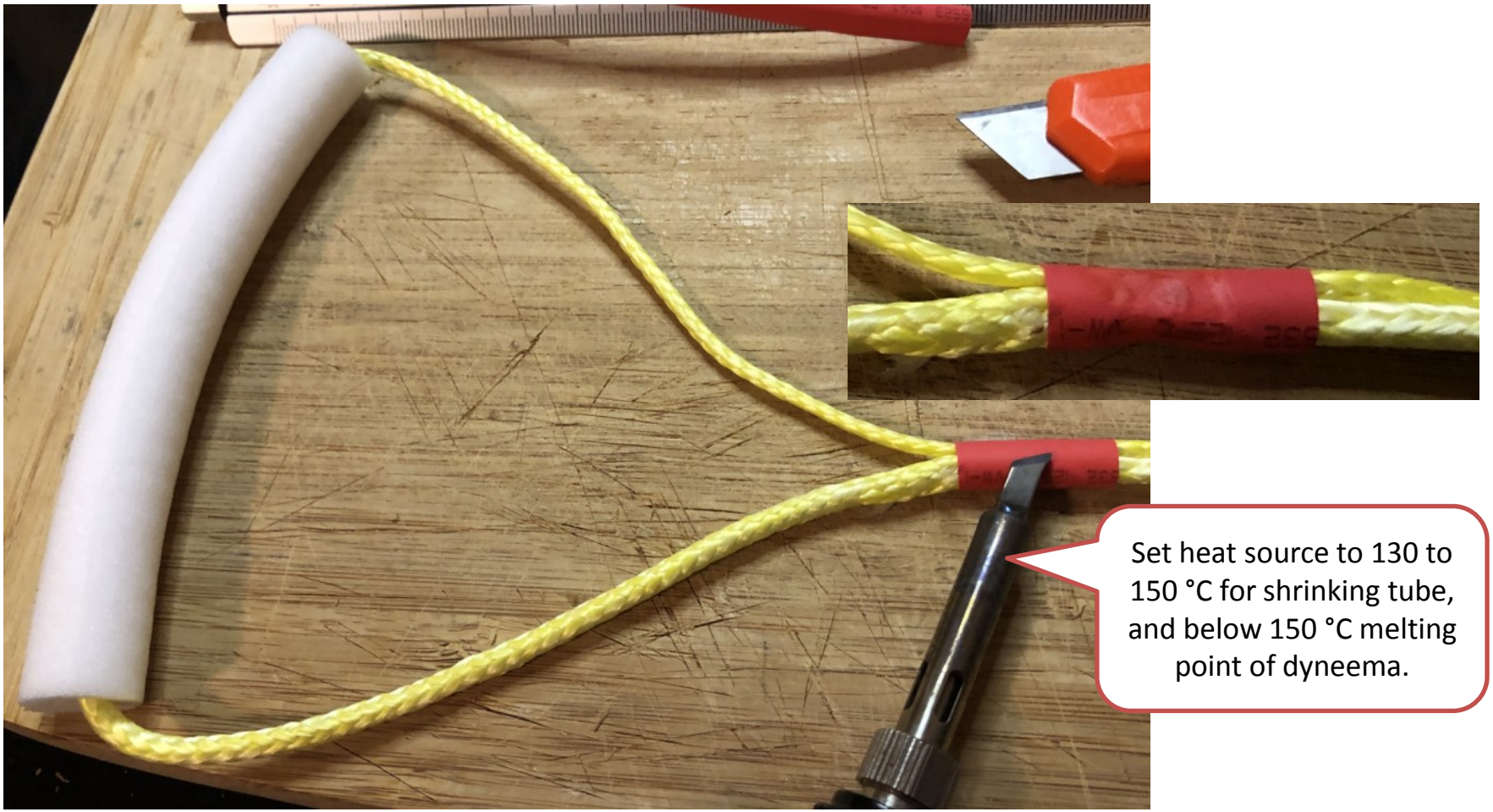
Now again, pull through all slack at the locked joint to the end.
Smooth the splice by carefully milking the rope starting at the joint.

Repeat the tapering and hiding procedure with the other end of the line.

Insert loop at its centre into 3 cm of shrinking tube, 6 mm diameter.
Shove and lock the lift handle on one side onto the splice.
Move shrinking tube to form an equal sided triangle.

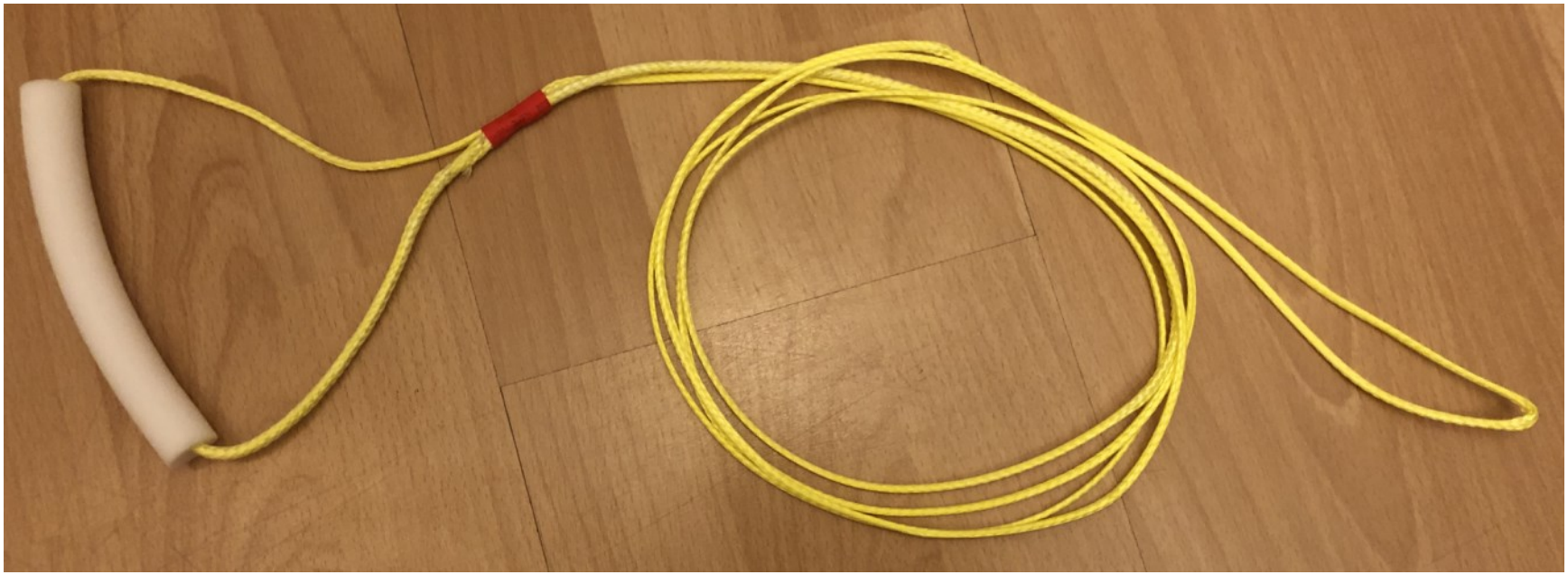


Carefully heat outside of the shrinking tube to lock the triangle for the handle. The dyneema line must not be melted by this outside heating!



Complete personal rescue loop* with foam handle

Carefully assess your work process and check its result.



A well worked dyneema loop should be strong enough to lift a person with a tackle or halyard from the water on board.

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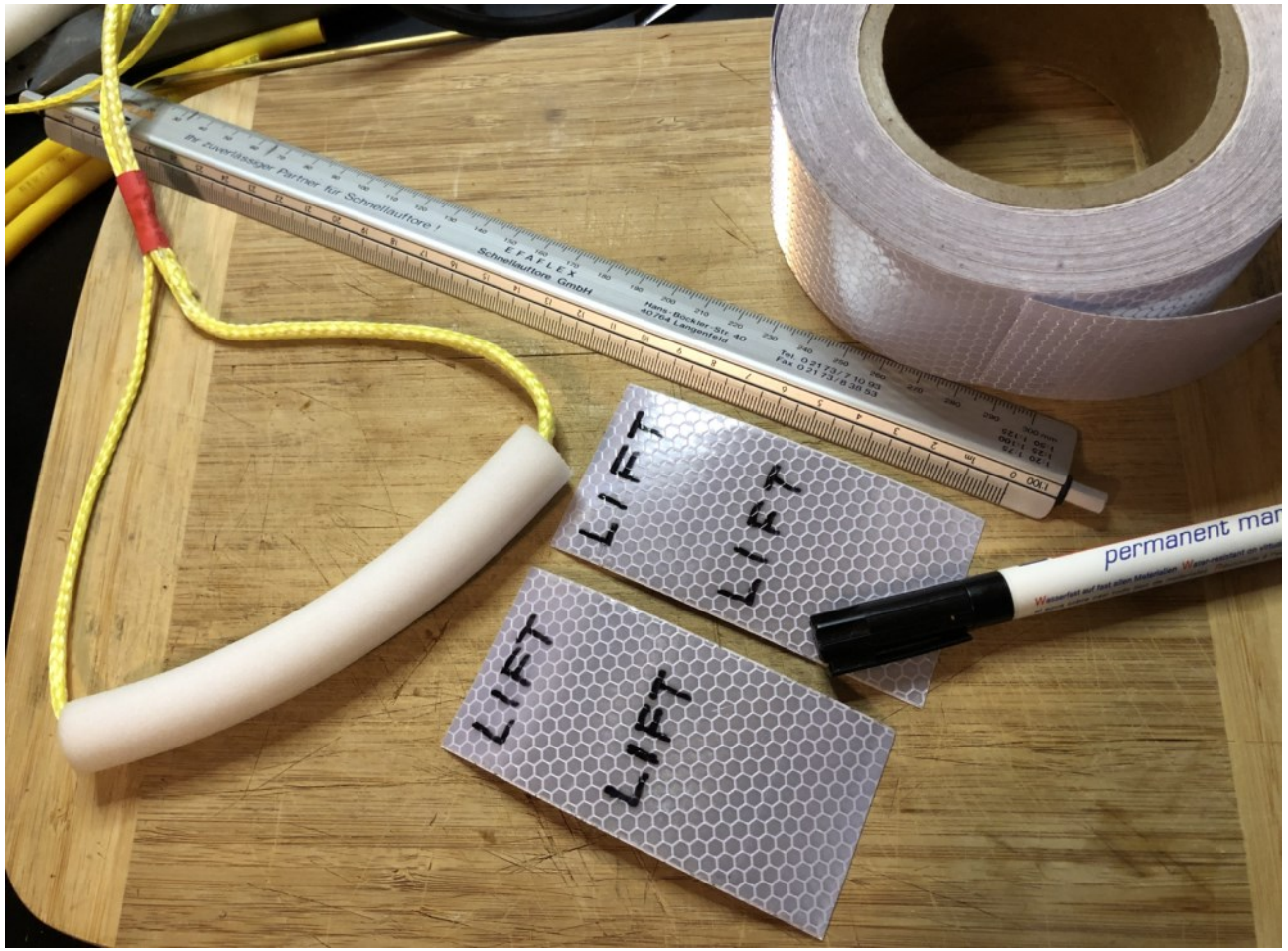
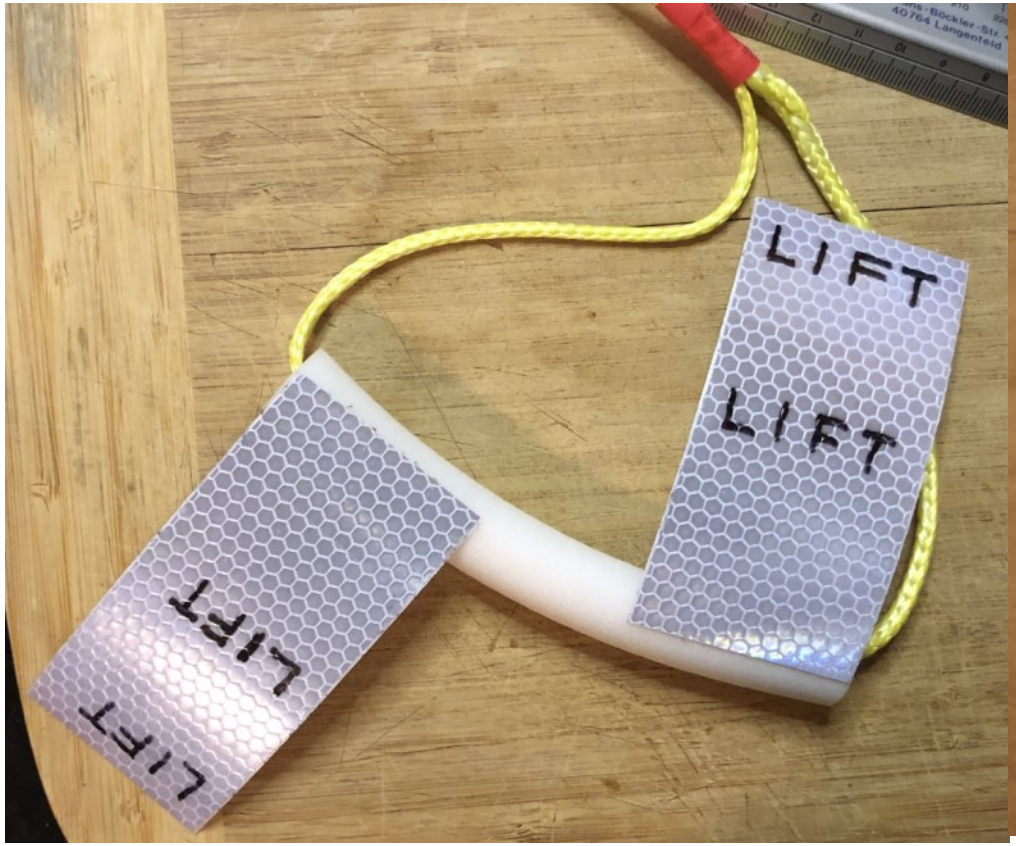
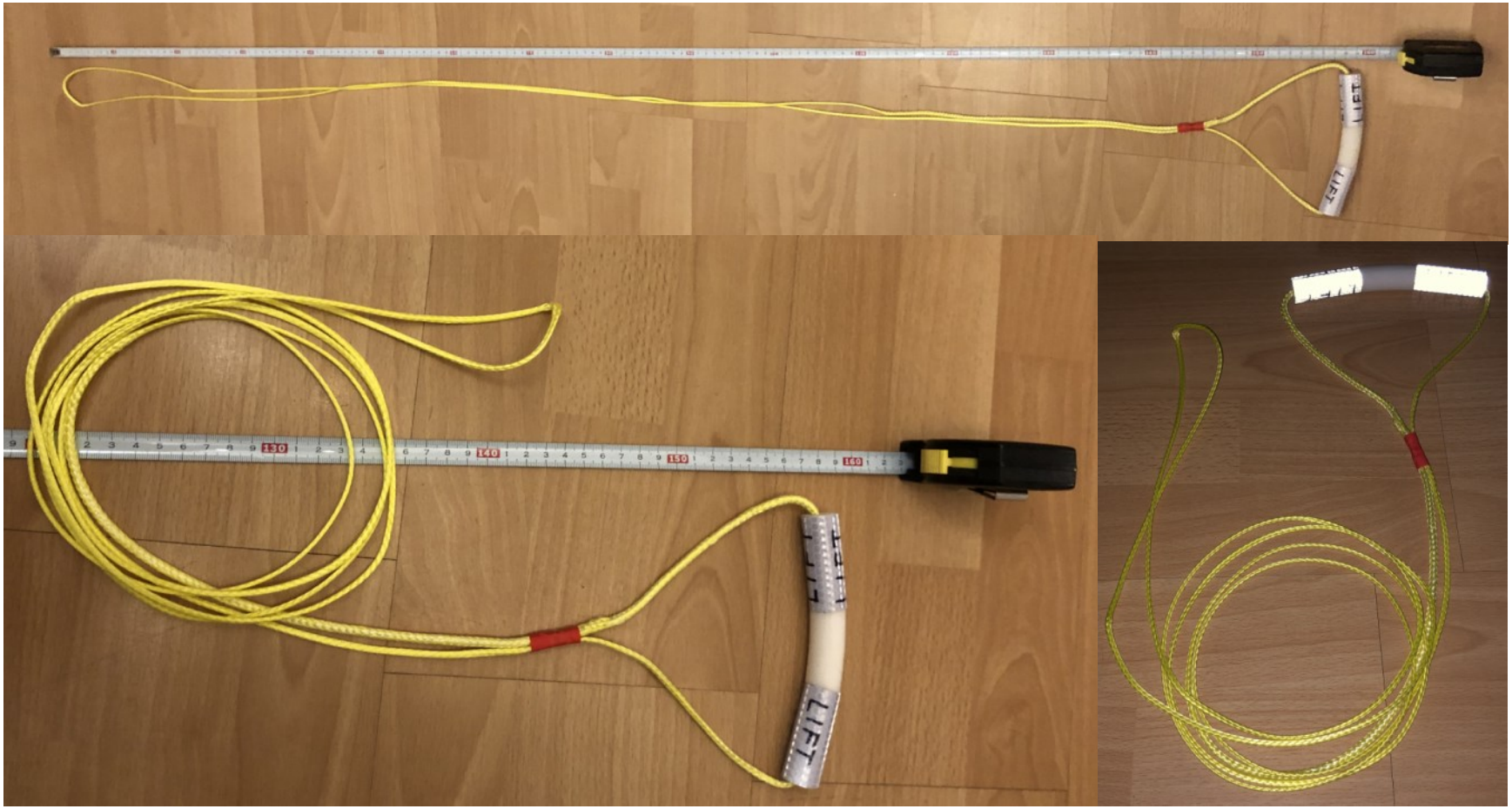
Prepare two pieces of adhesive reflecting tape 5 x 10 cm and mark them with the word „LIFT“ at one side.



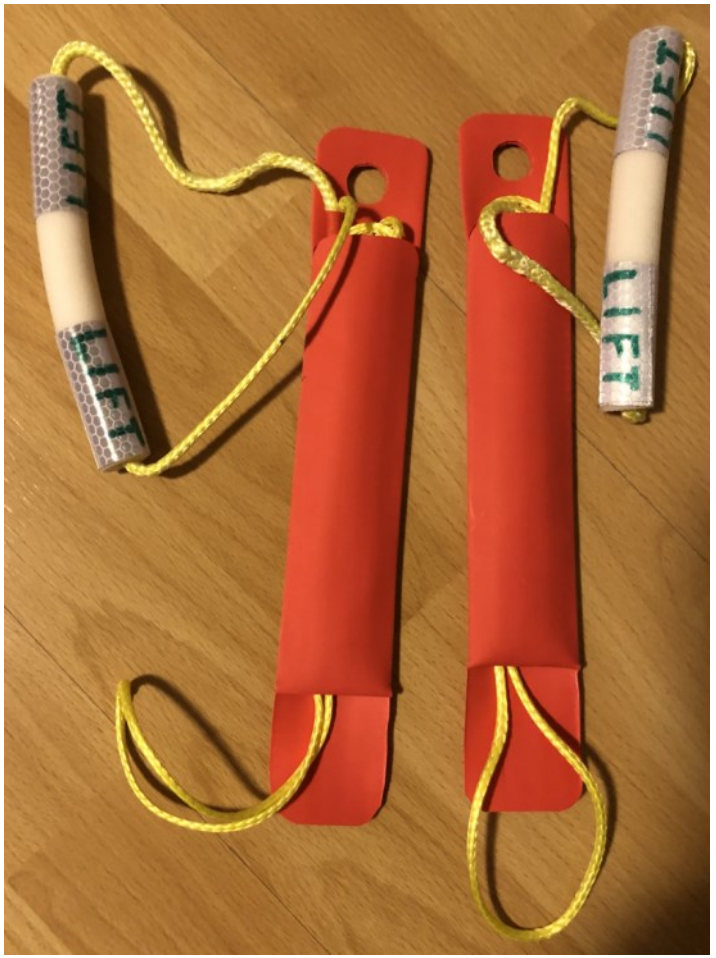
Role reflective tape around the ends of the foam tube in opposite directions so that the instruction „LIFT“ can be read from all directions.



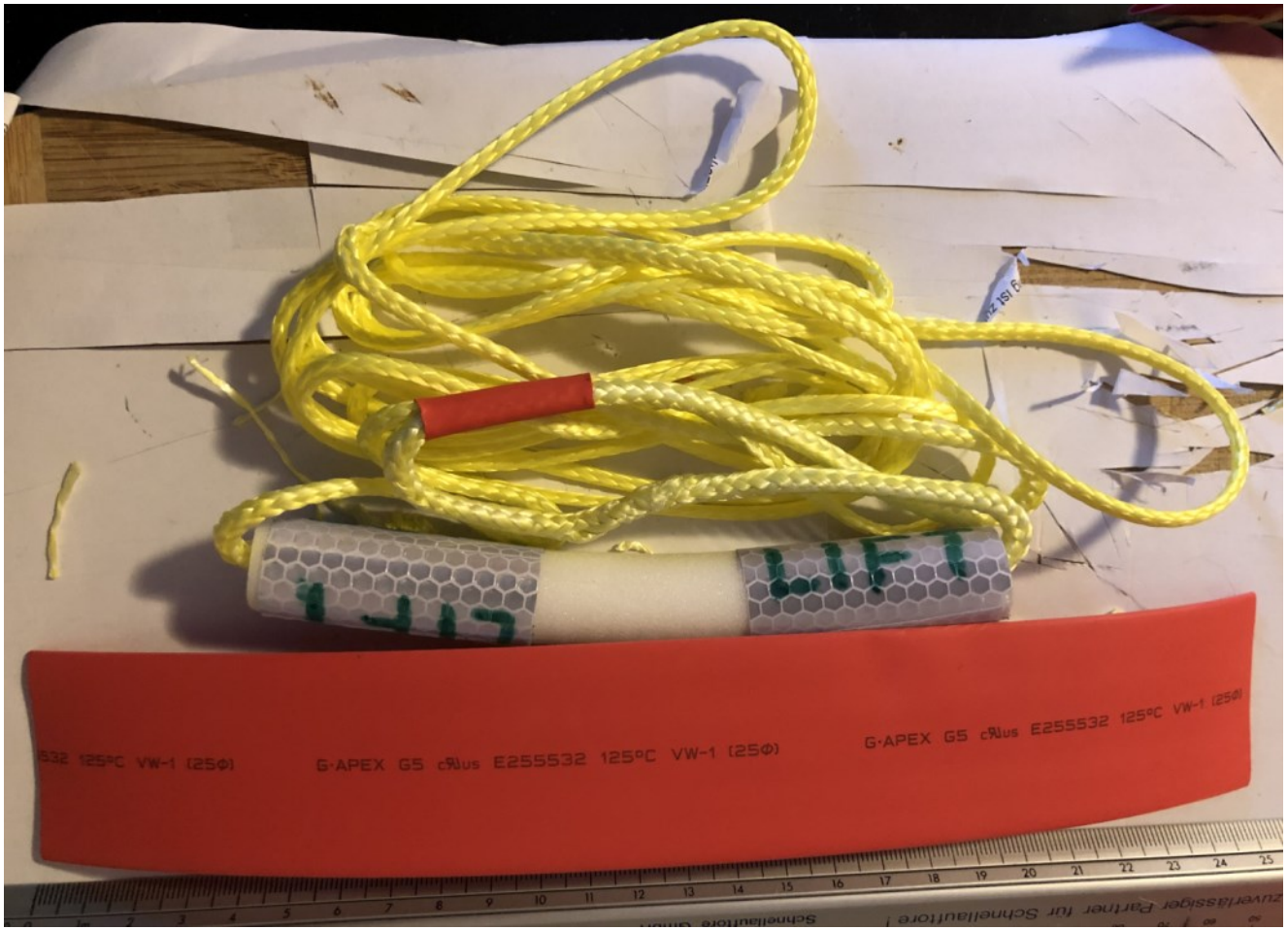
The loop has a length of about 160 cm, should be attached to the life belt or a firm lift strap by forming a simple ring hitch. The white handle will float on the water surface and reflects brightly on directed light. The handle triangle can be picked from the water with a boat hook. It can be secured preliminarily to a cleat. The strength of the dyneema line loop (> 200 kg working load, > 8 kN breaking strength, if the work and splicing was performed carefully*) should allow for lifting a person from the water on board with a halyard or a long tackle (at least 2 m) attached to a halyard.



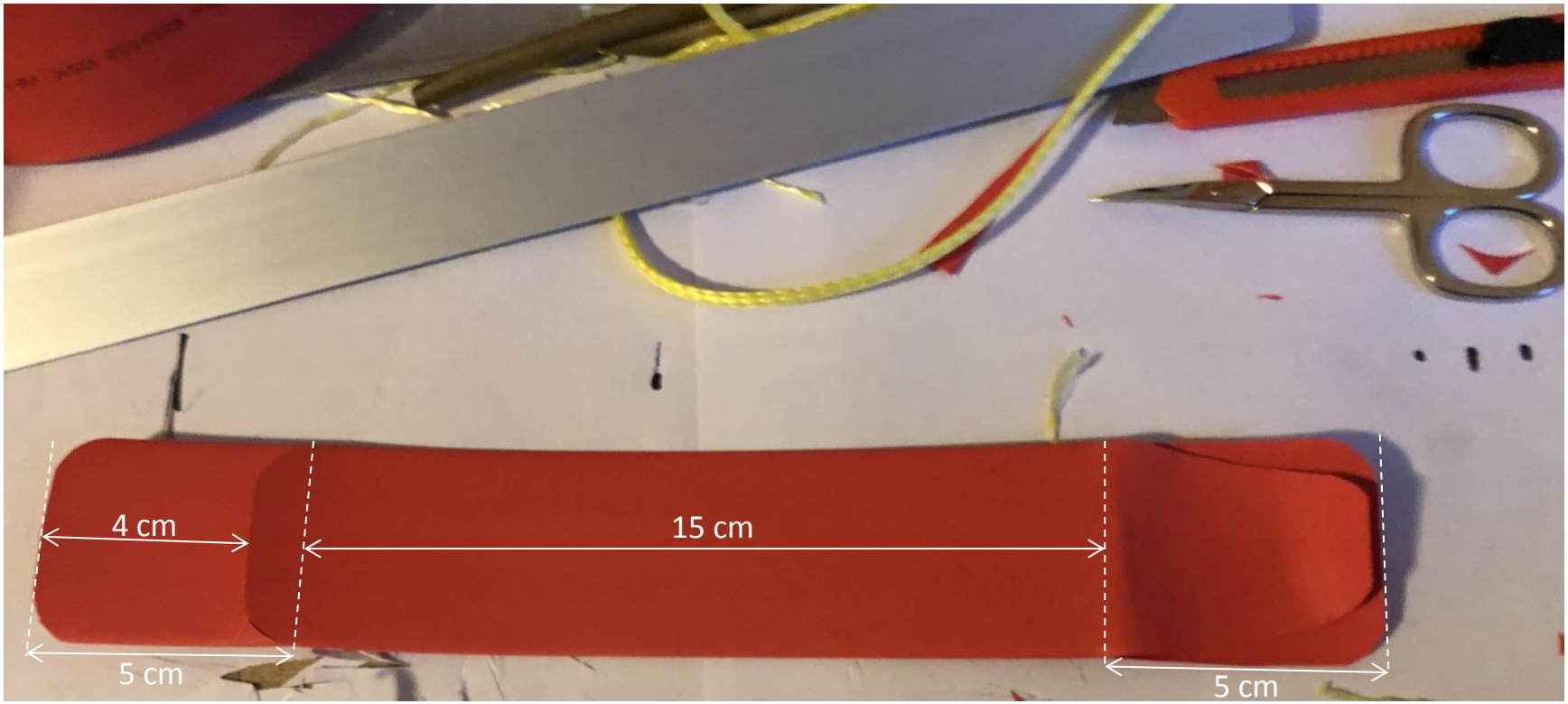
Mounting the coiled rescue loop securely to different types of life jackets can be supported by a small flexible bag.

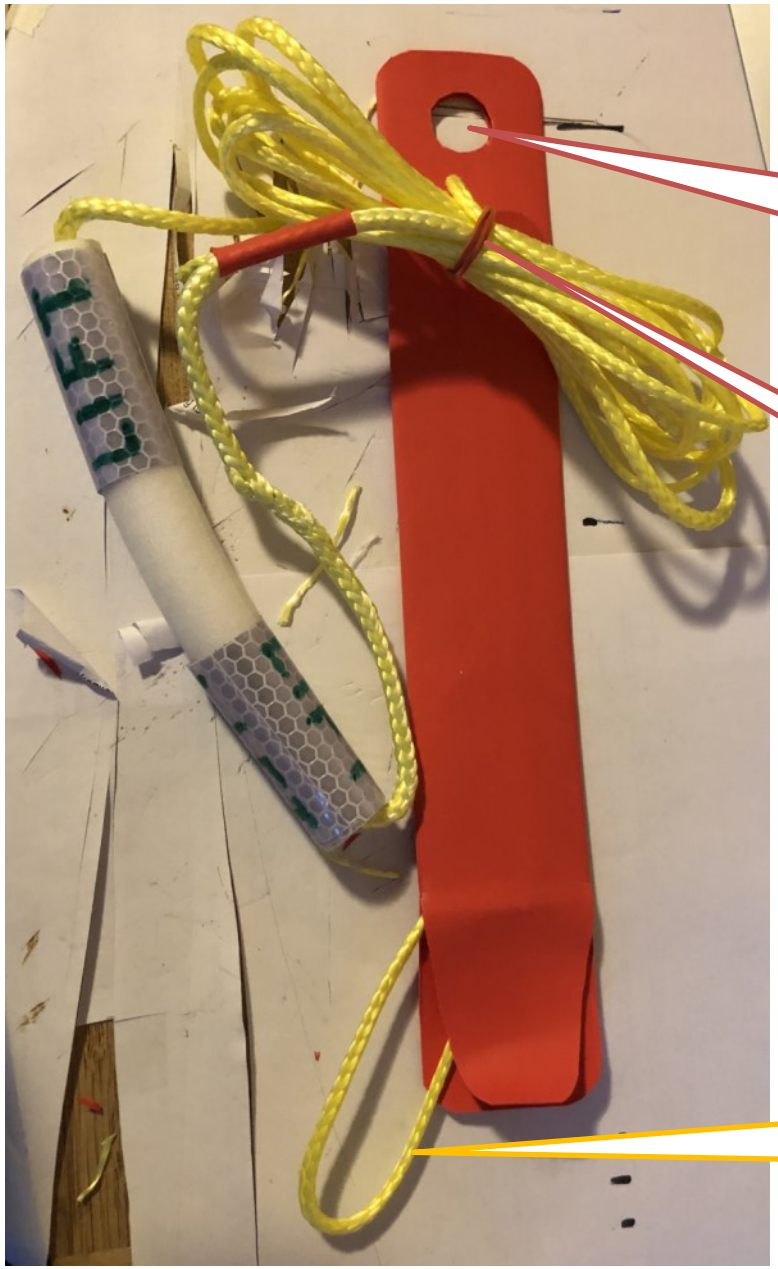


Cut 25 cm of shrinking tube 25 mm diameter



Use small scissors to cut a short and a long lip and round all edges.





1. Cut hole for attachment to life jacket at the top side with the short lip.

2. Wrap center of rescue loop with a rubber band.

3. introduce loop end from top through the shrinking tube.

4. Insert wrapped coil of rescue loop from the top into the bag

5. Fold lower and front side lip into the bag centre.

6. Connect to life belt or strong lift handle of a life jacket by a simple lark's head hitch:
Pull the bottom loop through or around the fix and then the entire lift handle and bag through the end of the bottom loop.