

ParmaFender Ø75, Ø90, Ø115

# Assembly instructions

## Steel beams





It is recommended to work from a low raft or a low steady boat.

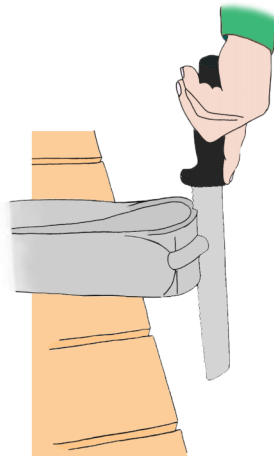
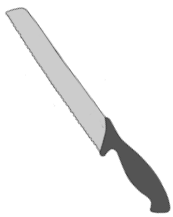
Work gloves and safety glasses are recommended as the steel-strips might be sharp and springy.

The fender can be mounted by one person, but for safety and practical reasons it is recommended to be at least two.

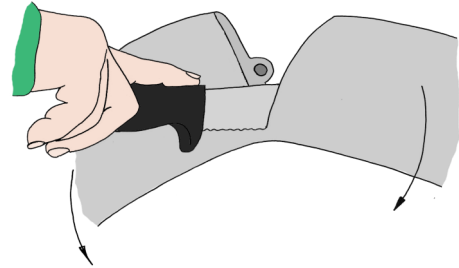
It is important to read the following instructions carefully.

**1**

The fender is cut in the centre of the mounting surface. Fold the fender and make a deep cut.

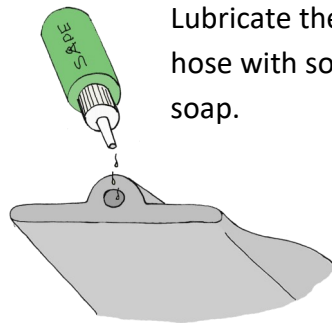
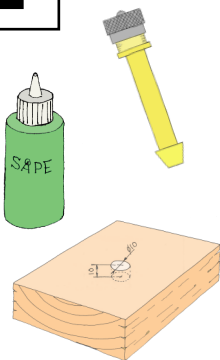


Straighten the fender, bend vertically and cut through.

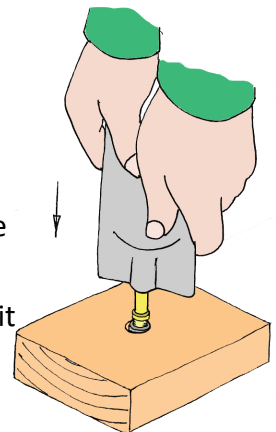


**2**

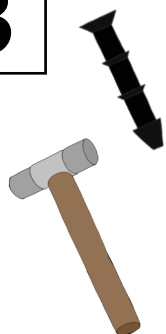
Lubricate the air-hose with some soap.



Place the valve in the air-hose and twist it past the first anchoring collar. Push or knock it all the way in.



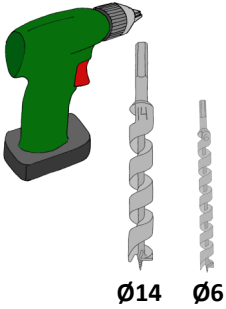
**3**



The end-plug is mounted in the same way as the valve.

A plastic hammer facilitates the assembly.

# 4

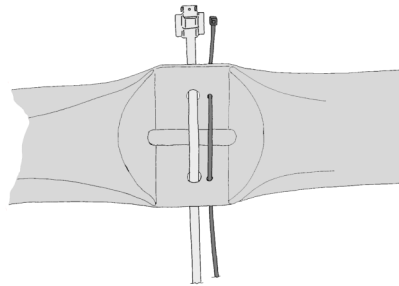
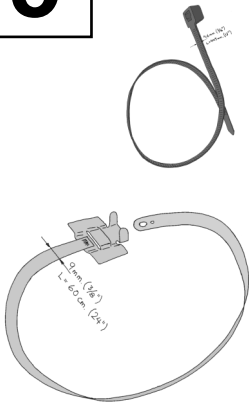


The fender is stretched out in its entire length on an even foundation. Two holes  $\varnothing 14$  mm. (9/16") are drilled in the centreline of the mounting surface. Then drill two holes  $\varnothing 6$  mm. (1/4")



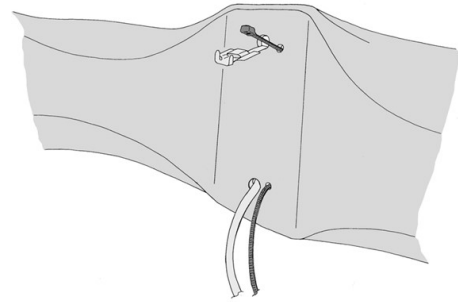
**SEE PAGE 7**

# 5

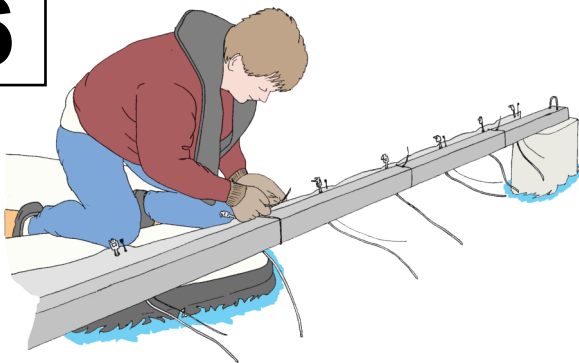


The steel-ties and the plastic strips are passed through the holes as shown on the drawing.

The entire fender is equipped with ties and strips while resting on land. Make sure the locks turn the right way.



# 6

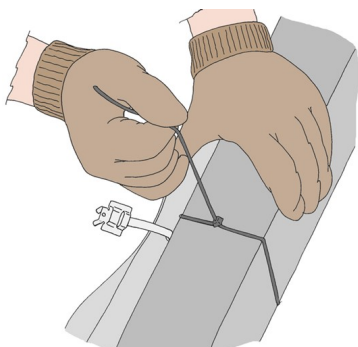


Put the fender down in the water along the steel beam with the valve pointing towards the jetty.

Every other segment is lifted up and fastened loosely with the plastic-strips.

Thereafter the other segments are attached loosely with the plastic-strips.

# 7



When all the segments are in the correct position on the beam, the plastic-strips are tightened. Make sure that the fender mounting surface is positioned tight against the beam.

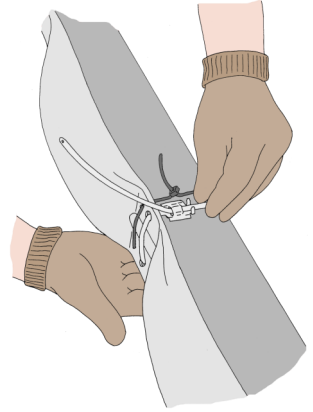
Start in one end of the fender and continue forwards.

8

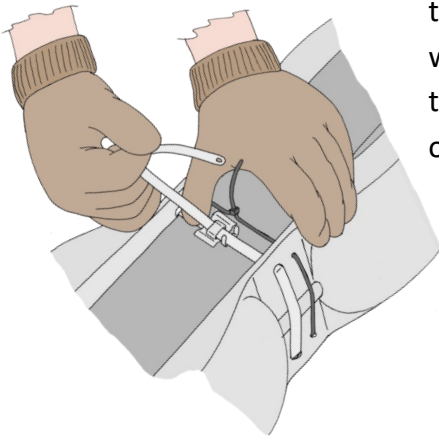
When all the mounting surfaces are tight against the beam, the steel-ties are inserted into the locks.

Carefully check that the steel-ties abut against the beam and the mounting surface around the entire circumference without any kind of kinks.

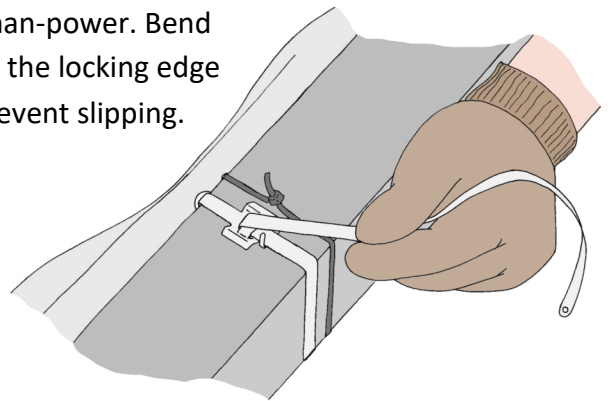
Spray with soap to reduce friction.



9

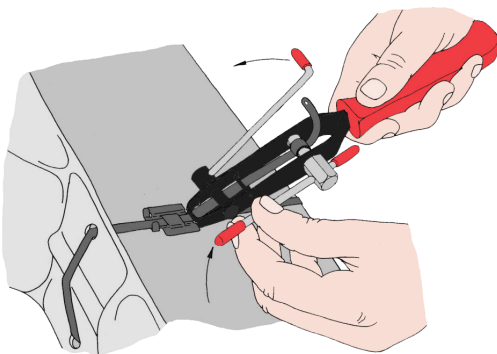


Hold the lock firmly with your thumb and tighten the steel-tie with moderate man-power. Bend the steel-tie over the locking edge of the latch to prevent slipping.

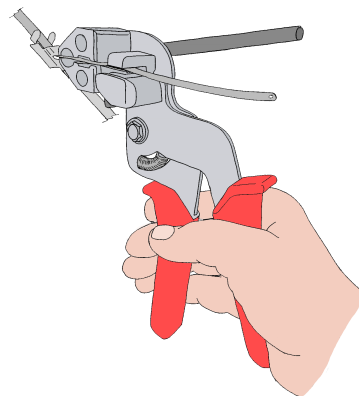


#### INSTALLATION INSTRUCTIONS FOR ESPECIALLY STRESSED BERTHING COMPARTMENTS

You can use 4 steel -ties in each mounting surface. The steel-ties are tightened with a tightening tool. The locks can be particularly secured by folding the ends twice, combined with glueing the locks

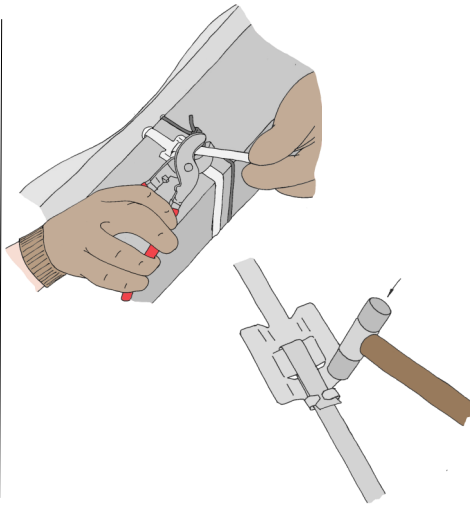
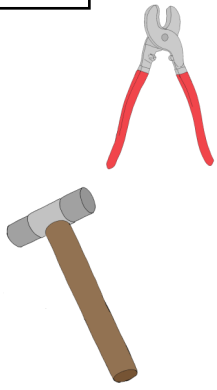


Simple tensioning tool (optional).



Professional tightening tool (optional) for optimized tightening of steel-ties.

# 10

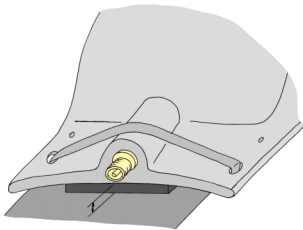


The steel-tie is cut with an ordinary scissor or a cable scissor (optional) min. 25 mm. (1") from the locking edge. The end must pass by the two tiny locking wings.

The steel-ties are knocked down with a plastic hammer and secured by means of the two tiny locking wings. Continue locking the steel-ties from one end of the fender to the other.

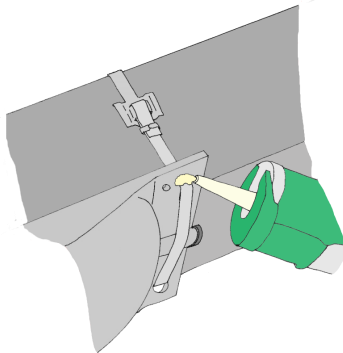
All plastic strips are removed and deposited.

# 11



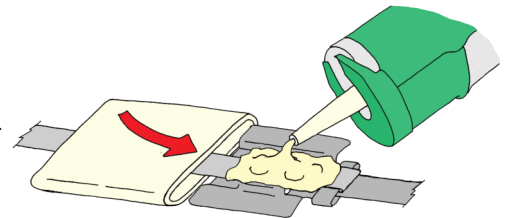
Lift up the valve-end as shown in the drawing. This is necessary to facilitate access to the valve.

# 12

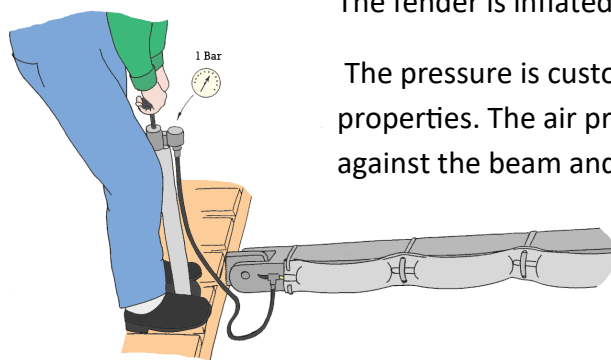
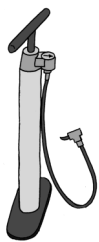


The ends of the fender might be particularly exposed, and it is therefore recommended to pack the holes in each end with a sealant (Sikaflex or similar) that glues the steel-ties to the fender.

The locks might be covered with a sealant (Sikaflex or similar) and protective clips (optional).



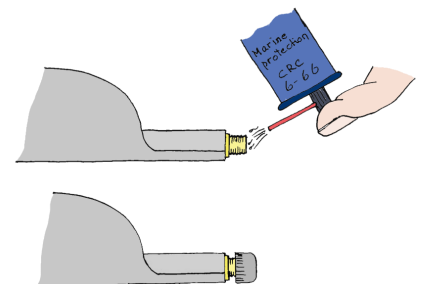
# 13



The fender is inflated with approx. 1 bar (15 psi).

The pressure is customized to desired shock absorption properties. The air pressure compresses the fender against the beam and tighten the steel-ties further.

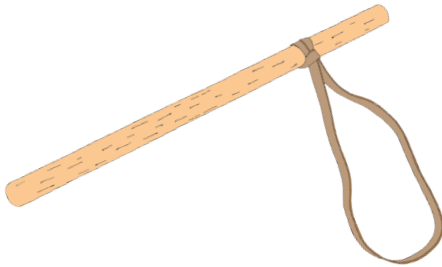
Spray the valve with corrosion-protective lubrication and install the hood.



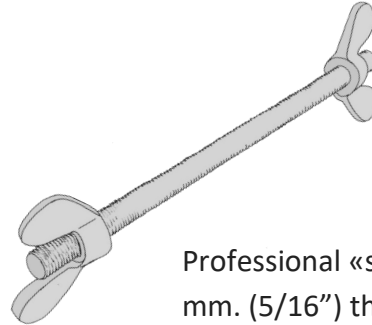
## DOUBLE-SIDED ASSEMBLY.



It is easier to mount double-sided than single-sided. By using “saddle-sticks” the prepared fender can be placed upon the beam like a saddle on a horse. Preparing the fender and tightening of the strips and ties is similar to what is explained for single-sided mounting.



«Saddle-stick» made of a  $\varnothing 10$  mm. (3/4”) round pin, equipped with a solid rubber band (optional). Useful if only a limited number of berthing compartments are to be equipped with fenders.



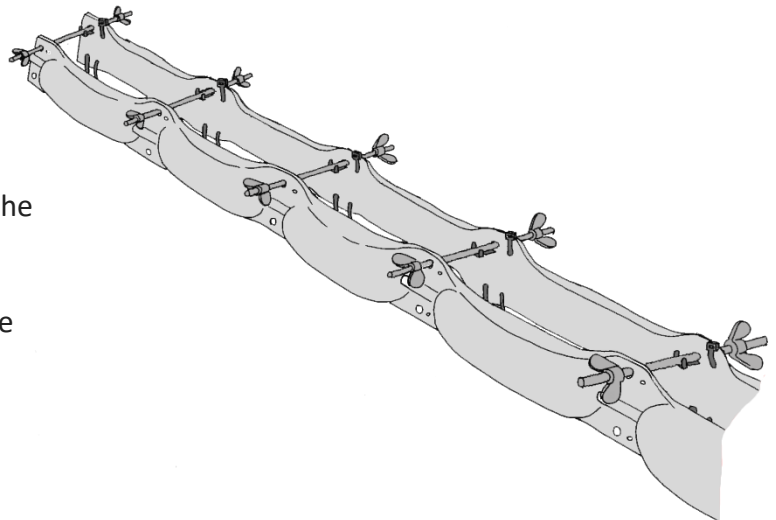
Professional «saddle-stick» of 8 mm. (5/16”) threaded steel rod with wing nuts, L = 200 mm. (8”). Used when equipping larger marine installations with fenders.

# 6

All strips, ties and «saddle-sticks» are mounted on-shore as can be seen from the drawing.

Then the fenders are placed on top of the beam like a saddle on a horse.

The valves shall point towards the jetty.

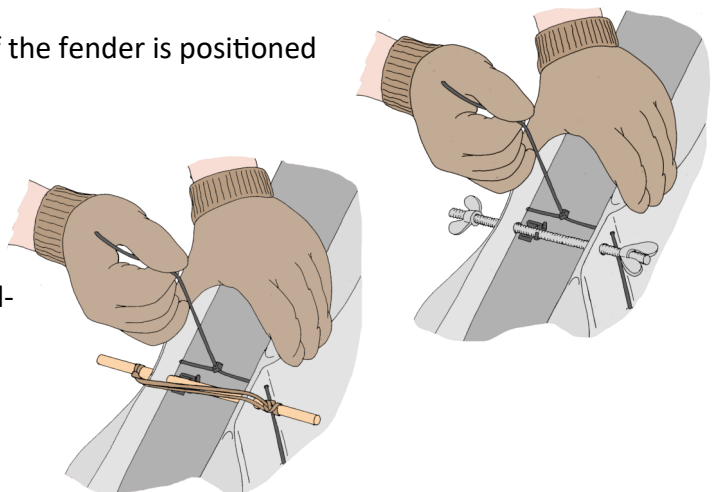


# 7

When all the segments are in the correct position on the beam, the plastic strips are tightened thoroughly.

Make sure that the mounting area of the fender is positioned tight against the beam.

The saddle-sticks” are removed, and the steel-ties are fastened in the same way as described for “single sided assembly”.



## DRILLING OF HOLES



Proper positioning of the holes is essential to avoid the fender from twisting out of position when loaded.

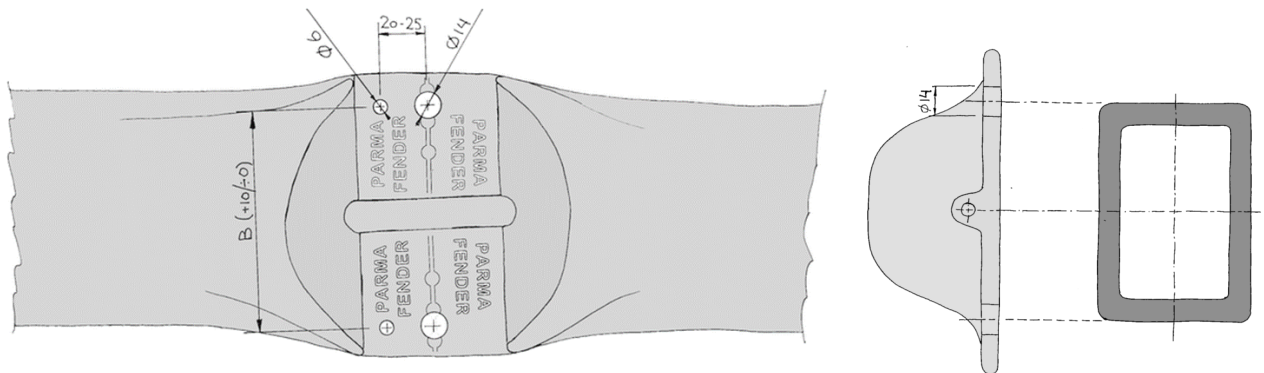
Preparation of the fender should be done on a suitable place with an even foundation.

Two holes  $\varnothing 14$  mm. (9/16") are drilled in the centreline of the mounting surface, equidistant to the width of the beam (+10/-0) mm. (+3/8" / -0").

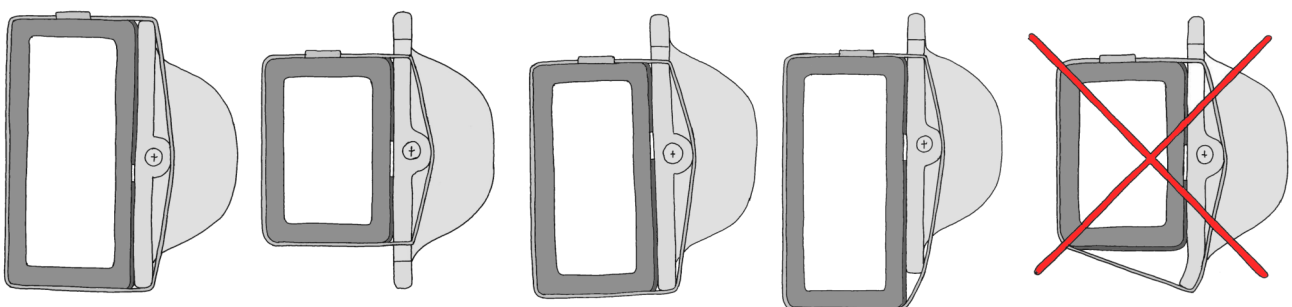
Then drill two holes  $\varnothing 6$  mm. (1/4") in a distance of (20-25) mm. (3/4"-1") as shown in the drawing.

The embossed reference marks are used as a guide-line to find the location of the holes.

The location of the holes in the narrow mounting areas, in each end of the fender, must be customized.



### EXAMPLES :



# Mounting examples

