

## 1. TOOLS AND MATERIALS

Check that the following tools and materials are ready before starting the repair:

◆ Glue



◆ Glue brush



◆ Material / patches



◆ Roller or something similar which can be used to apply pressure to the patch



◆ Solvent, MEK (Methyl Ethyl Ketone)



◆ Rags

◆ Pen or pencil



◆ Measure



◆ Scissors



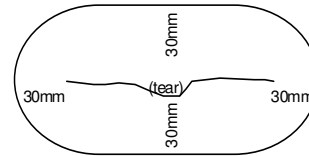
◆ Heat gun or hair dryer



## 2. BOAT REPAIR PROCEDURE

Follow these steps carefully to get a permanent and professional repair.

- ◆ Cut patches allowing 30mm all round bigger than the hole in the boat. A tear longer than 100mm will need two patches, one inside and one outside of the boat tube.



- ◆ If you need to mix glue (parts A and B) use 10% activator and thoroughly mix enough for the repair in a small cup. See note below.
- ◆ Using MEK solvent, wipe clean the surfaces of both the boat and the patch(es) which are to be glued.

### Inside Patches (see hints)

- ◆ Mark a line along the centre of the patch to match the length of the hole in the boat. Use this line to position the patch inside the tube.
- ◆ Spread glue on to the boat and on to the patch. Allow the glue to dry 10-15 minutes.
- ◆ Place patch through the hole in boat, position on a flat surface to the marked line, heat and roll down hard using plenty of pressure.
- ◆ Allow to cool, inflate tube and check for leaks with a little soapy water. **Do not inflate hard at this time** while the glue is uncured. Release the air from the tube immediately.

### Outside Patches

- ◆ Mark the outline of the patch on to the boat by drawing around it with a pen.

- ◆ Spread glue on to the boat and on to the patch. Allow the glue to dry 10-15 minutes.
- ◆ Lay patch on boat, heat and roll using plenty of pressure. If needed, use the end of a blunt screwdriver to work down edges, bumps and creases.
- ◆ Let the glue cure until the next day before putting full air pressure in boat.

## HINTS

- ◆ **IMPORTANT:** Boat materials typically wick air along the reinforcing base-cloth between the inside and outside coatings. The heavier the material, the greater the wicking leakage. If a puncture is patched only on the outside then air from the air-chamber will leak away through the exposed cut edges of the puncture and the basecloth.

**Incept strongly recommends that heavier materials be patched internally.**

- ◆ Corners of patches should be rounded to minimize lifting or catching on things, and for professional appearance.
- ◆ It helps when laying out the patch to put index marks on both the patch and the boat.
- ◆ Wipe the surfaces thoroughly with MEK. To do this, make sure that the rag you are using is well dampened with solvent, but not dripping.
- ◆ Allow 10-15 minutes for the glue to dry, although it may be more in cold or damp conditions and less in hot and dry conditions. Glue is dry when the glued surface is dry and warm to the touch. More time of drying is better.
- ◆ Put patch on boat and gently heat using a hot-air gun. Heat activates the glue, providing an instant and permanent bond. **Apply roller pressure to work down the patch while it is still warm.** The need for heat will depend on the climate and the type of glue being used. Glue supplied by Incept is a special formulation which requires less heat to activate.

## BEFORE STARTING REPAIRS

**T**here are several basic points to observe before starting any repair job:

- ◆ Do not use old, expired glue or damaged glue. Old or once frozen adhesive will only fail once it is put under any great stress.
- ◆ Do not attempt to glue under cold or wet conditions.
- ◆ Best conditions are indoors, warm and dry - minimum 65°F / 18°C. Everything needs to be dry. Water or moisture inside the boat tube will cause problems!
- ◆ Large tears or holes need to have a patch on the inside as well as the outside. The inside patch should be airtight before the outside patch goes on.
- ◆ Have all your tools and materials ready before starting the job. This saves frustrations during the work.
- ◆ Boat repair glues are Contact Adhesives. These require application to both surfaces, need time to dry before assembly, and need great pressure when the pieces are put together.
- ◆ Boat adhesives come in two parts - Base Adhesive (A) and Activator (B). Part (A) can work well on its own, but if the repair will get hot in the sun, Part (B) is essential. Part (B) has a short shelf life and must be kept cold and dry.

**I**ncept Marine Ltd has been producing high quality, high performance inflatable boats into extreme environments worldwide since 1989, and builds in welded construction (PVC and Polyurethane).

The company specialises in inflatable whitewater river boats of all sizes from 2.5m up to 7.6m rafts, and various high performance kayaks and canoes 3.0m to 5.2m.

Rangitikei River  
headwaters  
North Island, NZ



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# INFLATABLE BOAT REPAIRS

**FOR MATERIALS  
POLYURETHANE, PVC,  
AND THEIR ALLOYS**

**INCEPT MARINE LIMITED**

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