

## SCUBA - FIX TECHNICAL RELEASE 1.0 : BLADDER REPAIRS

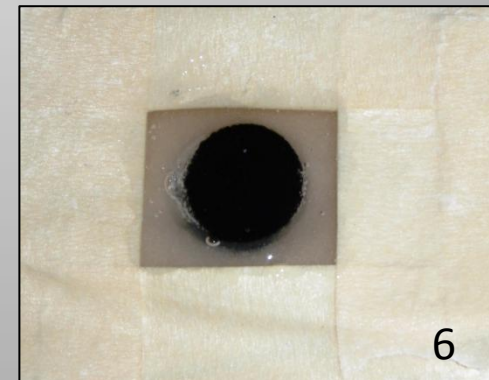
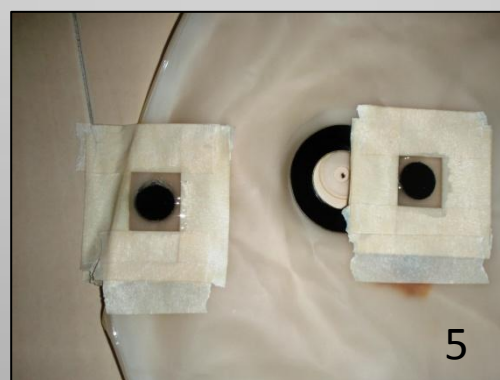
### Abstract

This document provides the approved guidelines to carrying out bladder repairs with Scuba-Fix repair valves, under controlled environment. It serves primarily to show the difference in post-repair results should the pre-repair process are prepared differently.

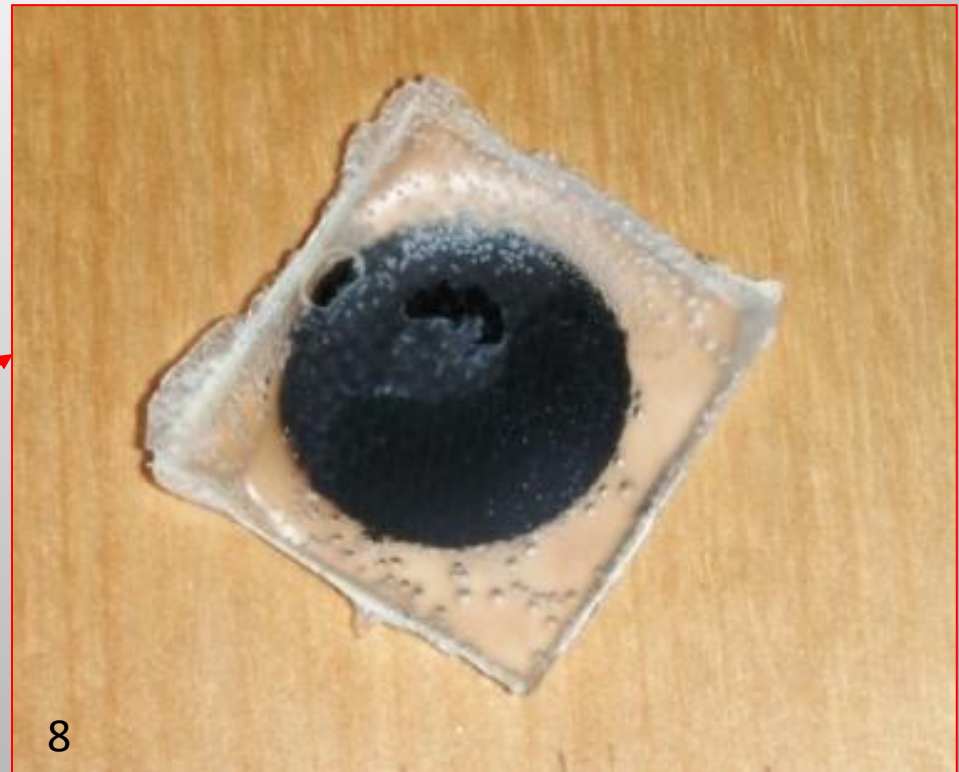
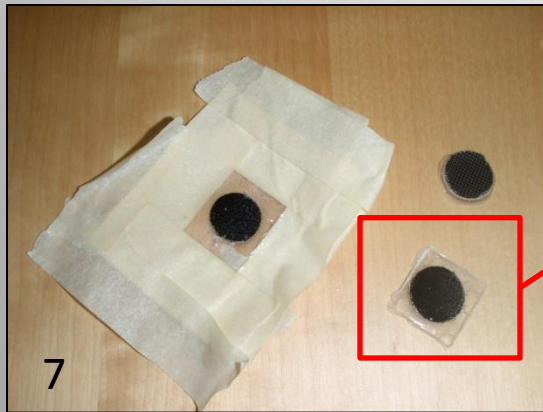
### Scope

1. PUNCTURED BLADDER SAMPLES REPAIRS
2. SUGGESTED PRE-REPAIR PREPARATION WORK ON PUNCTURED BLADDERS
3. BLADDER VALVE SAMPLES REPAIRS
4. SUGGESTED PRE-REPAIR PREPARATION WORK ON VALVE REPAIRS ON BLADDERS
5. SUGGESTED TOOLS OF AID

## 1. PUNCTURED BLADDER SAMPLES REPAIRS

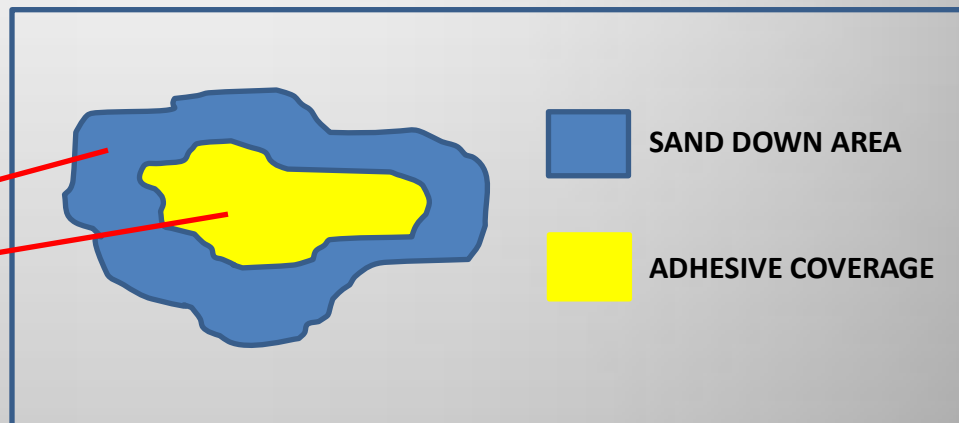
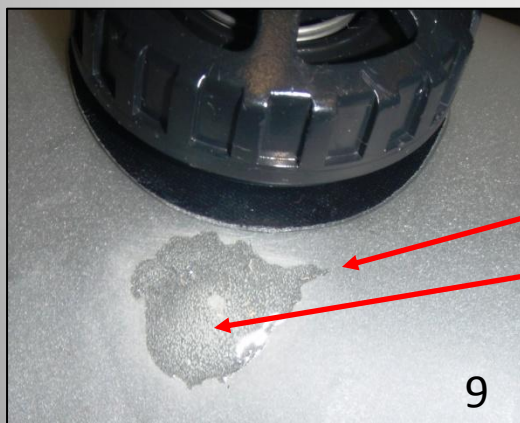


An OMS Bladder was found to have multiple punctured holes. We identified the holes via a snoop test method. The holes were immediately patched with our adhesive and a BCD patch fabric.



The end result was an unsuccessful bonding of the adhesive to the smooth surface of the bladder. The patch peel off effortlessly with little removal effort, displaying no bonding taking place between the bladder surface and our adhesive.

## 2. SUGGESTED PRE-REPAIR PREPARATION WORK ON PUNCTURED BLADDERS



The solution to the problem is resolved by increasing the Ra (Surface Roughness Value). This is achieved by sanding down the affected area with a sand paper and when the adhesive is introduced, ensure it doesn't overflow the sand down area.

So effective was the bond, we didn't need an extra patch on the bladder.



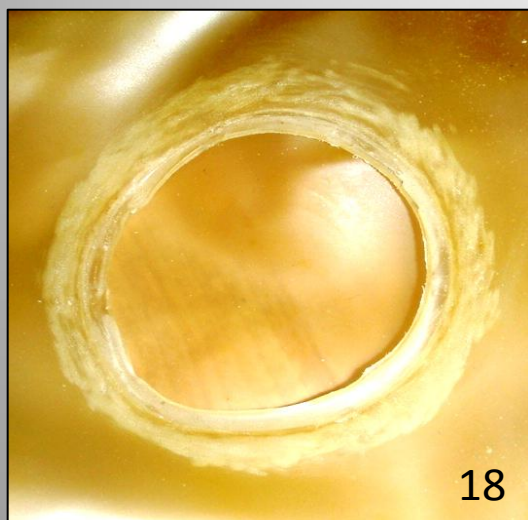
## 3. BLADDER VALVE SAMPLES REPAIRS



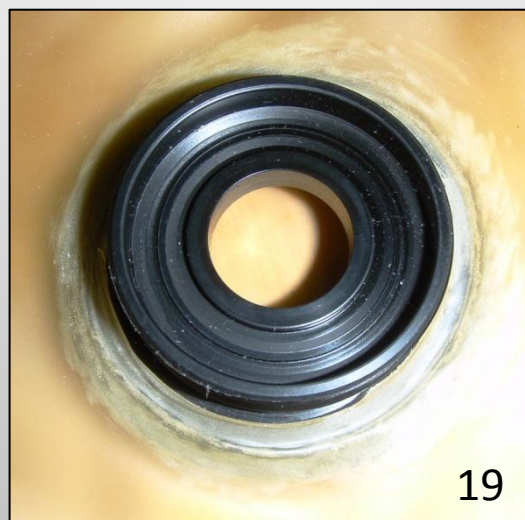
Repaired BCD was a Zeagle – Ranger. The bladder surface displayed the same smoothness as the rest of the technical BCDs brands i.e. OMS, Halcyon, Zeagle, BOSS...etc.

**If the pre-repair preparation is poorly carried out, the repair will not last.** Due to the fact our valves are circular in shape, it will hold the position longer than a regular puncture patch but the consistent inflating and deflating action will stretch the BCD material and cause material and adhesive separation around the bonding areas.

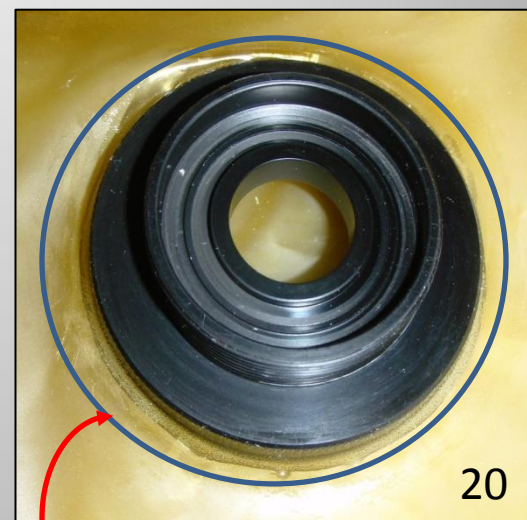
## 4. SUGGESTED PRE-REPAIR PREPARATION WORK ON VALVE REPAIRS ON BLADDERS



Sand Down Area



Sand Wider Than The Lock Ring



Adhesive Doesn't Overflow

To increase the Ra (Surface Roughness Valve), you will need to sand down **both above and below** the valve adhesive areas.

The diameter to sand down must be bigger than the supplied lock ring. Therefore, the adhesive will not overflow the sand down area, resulting in a strong latch bonding.

## 5. SUGGESTED TOOLS OF AID



Scuba-Fix suggest Dremel Stylus™ Cordless Model 1100.

If you carry out significant amount of repairs on diving equipment, this tool will aid you in carrying out the repairs. Select 400 to 600RPM for BCD material removal.