

## Tech Note 120831.1: Anodizing Scratch Repair

### Definition of Terms:

Blemish—Anodization is missing/removed but without any loss of or depth in the aluminum.

Scratch—Anodization is missing/removed with a maximum size and depth of 3 mm x 1 mm x 0.25 mm.

Gouge—Anodization is missing/removed and larger than the above Scratch.

This document describes the quick repair of blemished/scratched aluminum surfaces only. If greater damage to the anodized surface has occurred as in the case of a gouge defined above, please contact WET Labs to have sensor returned for repair.

*The Biofloat sensor is used as an example for this document but the process can be applied to all WET Labs sensors that have aluminum exterior surfaces.*

During service and retrieval of the Biofloat sensors, the exterior of the anodized aluminum housing will most likely get scratched. The Biofloat sensors include a working anode as a preventive measure against corrosion of the 6061-T6 aluminum housing, along with a hard black anodization to limit the amount of corrosion when in seawater. All Biofloat sensors are thoroughly inspected for surface coverage of the hard anodization, and are shipped with protective sleeves to prevent any surface wear of the anodization. A visual inspection of the housings should be performed when receiving the Biofloat sensors to ensure no scratches occurred during shipping and handling. Look for the appearance of small scratches that expose the silver aluminum of the body. Should small surface scratches of the black hard anodization occur, the following procedure can be used as a quick repair.

### Components Required for Repair:

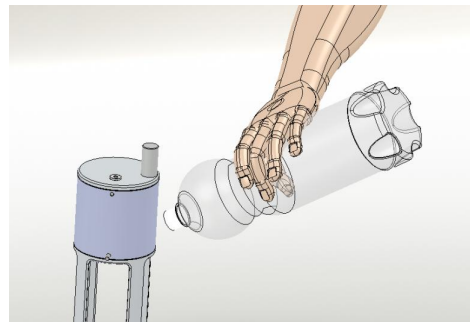
1. Isopropyl Alcohol > 90% (IPA)
2. Cotton balls
3. Black enamel paint
  - a. WET Labs recommends an enamel paint marker ([www.testors.com](http://www.testors.com); Part Number 2547C).
  - b. Any black enamel paint such as fingernail polish or model paint will do.

**DO NOT USE SPRAY PAINT.  
THE OPEN OPTICS WILL GET CONTAMINATED WITH PAINT PARTICULATES.**

### Prepare and Clean the Area of the Scratch

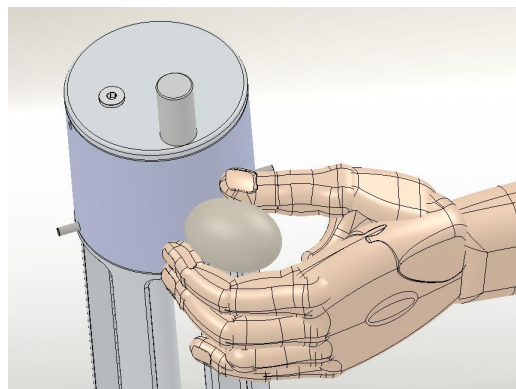
1. Remove all biofouling/dirt/grease within the area of the scratch.
2. Clean the surface around the scratch as best as you can with clean fresh water.

DO NOT use salt water to rinse the area around the scratch.



**Alcohol is cold to the touch and will dry out your skin. Wear protective gloves if your hands are sensitive to chemicals.**

3. Open the IPA and wet a cotton ball with the alcohol.
4. Rub the wetted cotton ball over the scratch. Make sure that the liquid IPA gets down into the scratch.



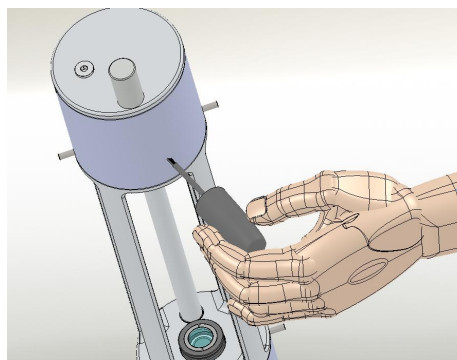
**Do not touch the area around the scratch after cleaning it with alcohol. Skin oils will prevent paint from completely bonding to the surface.**

5. Carefully blow dry to evaporate the alcohol. Wipe with a clean paper towel to help speed up evaporation.

## Paint the Area of the Scratch

**All painting should be done in a well ventilated area.**

6. Apply enamel paint into the scratch and 1 mm around the scratch.



7. Allow to dry approximately 1 hour.
  8. Apply a second coat of paint to the scratch and paint ~3 mm around the scratch.
  9. Allow to dry approximately 1 hour.
- OPTION: Apply a “sealer” or “clear coat” at this point for added protection.