tags@wctags.com
WildlifeComputers.com
+1 (425) 881 3049
8345 154th Ave NE
Redmond, WA 98052 USA

Micron66 Tag Anti-fouling Protocol

For over a decade Micron66 has been used successfully to limit biofouling on sea turtle satellite tracking tags. However in many cases its effectiveness has been limited, possibly due to the paint being hastily applied after tag attachment.
The following instructions are based on recommendations from the technical department of International Paints, the Micron66 anti-fouling paint manufacturer.

The process involves 1 coat of Interprotect primer and 3 coats of Micron66. Due to drying times allow 48 hours for this process prior to the tags being attached to sea turtles.

Wildlife Computers tags should not be attached to sea turtles using epoxy over the top of the tag as this interferes with GPS antennas and anti-fouling paint. If attachment epoxy is tapered up the sides of tags then this and the area of the epoxy footprint should be also painted with Micron66 after attachment. Ideally it should be allowed to dry as long as possible.

Note that Micron66 is not suitable for use in fresh water. Other Micron paints are available for fresh water use.

Personal Protective Equipment
Please note that safety guidelines and correct PPE must be worn for the application of both the primer and Micron paints.
Once painted, tags should only be handled with gloves due to the copper and biocide in the anti-fouling paint.

MSDS:
Use the following link to access the Safety Datasheets for both the Interprotect primer and Micron66 anti-fouling paint.
http://www.yachtpaint.com/usa/diy/products/antifouling/micron-66.aspx

Check your paint can for the MSDS version number e.g.: E5 for Micron66 Black.

WILDLIFE COMPUTERS

tags@wctags.com
wctags.com
+1 (425) 881-3048
8345 154th Ave NE
Redmond, WA, 98052 USA

Resources

International Paints Micron66 anti-fouling paint

Micron66 is only available in 5 litre (1 gallon) cans.

http://www.yachtpaint.com/LiteratureCentre/micron-66-info-usa-eng.pdf
USA Store Locator:
http://www.yachtpaint.com/usa/diy/store-locator/search.aspx
Micron66 is available in the USA and Asia-Pacific regions from International Paints dealers and ship chandlers.

Micron66 is not available in all countries. Similar Micron products such as Micron Extra, Micron Extra2, MicronCSC, Micron77 and Micron99 are alternative solutions although **Micron66, Micron77 and Micron99 are the most effective.**

Micron77 may only be available from licensed applicators.

International Paints Primer

"Interprotect 2000E" **or** "Interprotect" **or** "Gelsheild 200" (These are the same product). Interprotect is a 2-part epoxy primer and is available in 750ml, (1 quart) cans.
If Interprotect primer is not available then "Primocon" primer can be used but it is not as effective.

WILDLIFE COMPUTERS

tags@wctags.com
wctags.com
+1 (425) 881-3048
8345 154th Ave NE
Redmond, WA, 98052 USA

Accessories

- **Paint mixing cups or bowls (4)**
- **Strong mixing stirrers for paint cans (2)**
- **Mixing sticks to mix primer (2)**
- **Disposable ~100ml measuring cups for primer components (2)**
- **Small disposable paint brushes (4)**
- **80-100 grit sandpaper (1 sheet)**
- **Isopropyl alcohol or acetone (500ml)**
- **Clean rags (3)**
- **Disposable gloves (10 pairs)**
- **Masking tape (1 roll)**
- **Appropriate respirator, fume cabinet or well-ventilated area.**

Application Procedure

Allow 48 hours for the application of the primer, 3 coats of Micron66 and curing time before immersion.

SPLASH10-F-344 Tags

If you have model SPLASH10-344 tags with a 'Battery Isolator' screw, once at the deployment location, fit the screw and cover it with attachment epoxy to isolate it from the water. When the epoxy is dry then start the painting process.

Tag Preparation

- Sand the tag thoroughly to roughen the surface. Sand all areas except the wet/dry sensors and the Argos whip antenna which are not painted. Be careful not to damage any external sensors such as the temperature sensor probe. Leave the Peel-Ply in place under the tag.
- Clean with a rag and isopropyl alcohol or acetone.
- Use masking tape to cover the wet/dry sensors. In depth sensing SPLASH tags cover the pressure sensor orifice and mask a 1cm2 (3/8") area above the light sensor if the tag has one. Note that Fastloc sea turtle tags do not normally have light sensors.
- Insert the communications connector plug and cover in masking tape.
- Cut a 6mm (1/4") circle of masking tape and place this over the LED area to enable viewing once the tag is painted.
- Clean the tag again with isopropyl alcohol or acetone, avoiding the masking tape. Do not handle the tag without gloves once cleaned.

WILDLIFE COMPUTERS

tags@wctags.com
wctags.com
+1 (425) 881-3048
8345 154th Ave NE
Redmond, WA, 98052 USA

Interprotect Primer Application

- Mix thoroughly the 2000E primer base.
- Measure 3 parts by volume of 2000E base and 1 part 2001E hardener and mix thoroughly.
- Allow to sit for 15-20 minutes to pre-cure.
- Apply to tag with a brush, painting all surfaces evenly including Fastloc GPS antennas. (Avoid drips and wet areas that will dry at a different rate).
- Allow to dry until tacky – see critically important note on drying time below.

Primer Drying Time

It is important that the first coat of Micron66 be applied when the primer is tacky. This is determined using a "Thumb print test". After the primer has dried for about 30 minutes, use a gloved hand to touch the tag surface to see if it leaves a print in the paint. If paint sticks to the glove then it is not cured enough. If the primer feels tacky and leaves a mark without getting paint on your finger then it is ready to overcoat with Micron66.

Drying times to tacky vary with temperature and humidity however 30 minutes is typical in warmer climates.
If the tag surface is not tacky after 1 hour then check every 15 minutes until it is tacky.
If the primer is left too long and has cured hard then another coat of primer will need to be applied and the process repeated for a tacky base.

Micron66 Application

Mix the can of Micron66 well with a strong stirrer. Shaking the can is not effective as the copper will have settled to the bottom of the can so it must be mixed thoroughly.

- Immediately brush a coat of Micron66 onto the whole tag once the primer is tacky.

Minimum drying time between coats is 4 hours at 35 ° (95F), 6 hours at 23 ° (73F), and 8 hours 10 ° C (50F). Ideally leave the tag overnight.

- Apply a second coat of Micron66 and allow to dry as above.
- Apply a third coat of Micron66.

Remove Masking Tape

- After the final coat has dried, wearing gloves, remove the masking tape from the wet/dry sensors, pressure sensor orifice, light sensors and LED.
- Store tags in a Ziploc bag as Micron66 gives off a strong odor.

WILDLIFE COMPUTERS

tags@wctags.com
wctags.com
+1 (425) 881-3048
8345 154th Ave NE
Redmond, WA, 98052 USA

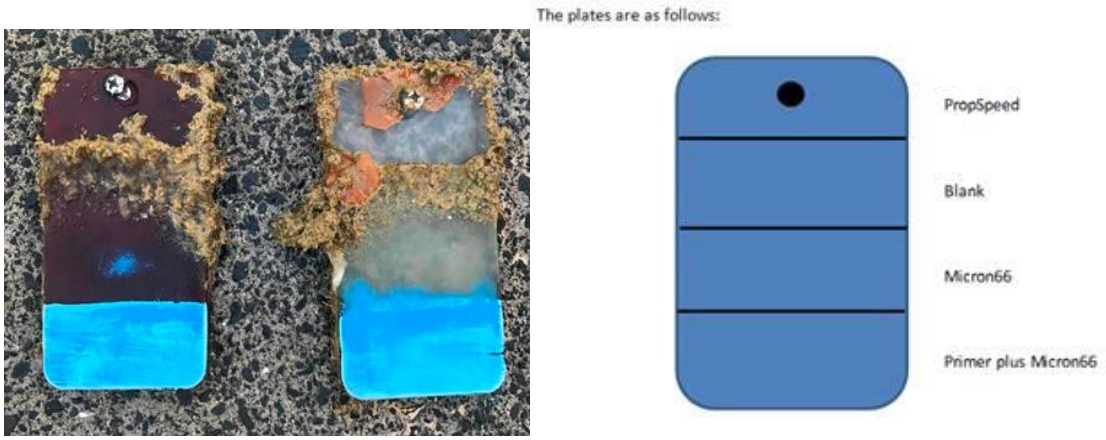
Tag Handling
Tags must only be handled with gloves as the Micron66 does contain copper and biocides. Store the tags in a cool place. A refrigerator is good but NOT with food.

Tag Deployment
The tag can be attached and deployed immediately however if more than 30 days have elapsed since the last coat use a stiff nylon brush to lightly wash and reactivate the top layer.

Kevin Lay
Wildlife Computers

Appendix 1
Wildlife Computers have been undertaking tests on anti-fouling paint in various parts of the world.

Below is an image of submerged polyurethane and epoxy test plates after two months on a wharf pile in New Zealand.
PropSpeed is at the top and has done a reasonable job but has started to fail. Next is a placebo blank area with no protection that has fouled badly. The next strip down had Micron66 and no primer and the Micron66 has nearly worn away completely. The Micron66 at the bottom has primer and is pristine. One coat of Interprotect primer and three coats of Micron66 are mandatory for a successful project.



End of Document