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SPOT-S-433 ANTIFOULING PROTOCOL OVERVIEW

Propspeed is a foul-release silicon coating that impedes biofouling adhesion. Propspeed relies on movement for its effectiveness—the more it moves, the better it performs as marine growth can't get a grip to grow. Propspeed can last up to a year and is relatively non-toxic according to the manufacturer.

Wildlife Computers leaves the decision to apply antifoul coating after manufacturing and before deployment entirely to the researcher's discretion, however, ***we strongly recommend*** that tags be treated with some antifouling coating to ensure the best possible chance of a successful deployment as ***Wildlife Computers does not warrant against biofouling***.

Wildlife Computers offers an optional service to sand, mask, and paint tags with one coat of Propspeed antifouling paint (no primer) and coat the wet/dry sensors with conductive polymer. This comprehensive antifouling service is offered at a charge of $100 per tag prior to shipping.

Purpose

This protocol describes the approved method for applying Propspeed antifouling coating to SPOT-S-433 satellite tags. The goal is to reduce biofouling without interfering with solar charging, antenna performance, adhesive bonding, or sensor function.

Approved Antifouling Coating

Propspeed Clear Coat only—Propspeed is recommended and compatible with solar charging tags when applied correctly.

Areas Approved for Coating

Top surface only, excluding all restricted areas listed.

The following areas MUST NOT BE coated:

Propspeed MUST NOT be applied to the following areas of the SPOT-S-433:

- Sides of the tag—these surfaces will be used for adhesive attachment. Any contamination may compromise bond strength.
- Antenna—the antenna has a PTFE layer with inherent antifouling properties; additional coating may interfere with transmissions.
- Wet/Dry Sensors—coating will impair sensor function and prevent proper transmission behavior.

SPOT-S-433 ANTIFOULING PROTOCOL OVERVIEW – CONTINUED

Safety Information

Although Propspeed is considered relatively non-toxic, it is classified as a hazardous substance by the EPA. Always follow safety precautions when handling it.

Before starting, read all label and safety instructions carefully. You must wear appropriate personal protective equipment and adhere to all safety guidelines. Access the Propspeed safety datasheet here: https://propspeed.com/marine-products/propspeed/how-to-apply.

Personal Protective Equipment

- Disposable Gloves—nitrile gloves are recommended.
- Safety Goggles—tight-fitting goggles or face shields are recommended. Avoid wearing contact lenses.
- Protective Clothing—wear impervious clothing or overalls if skin contact is likely to occur.
- Apply in a well-ventilated work area.
- Respirator—suitable respiratory protection should be worn in a confined space or in case of inadequate ventilation.

The safety guidelines MUST be followed and the correct PPE MUST be worn for the application of any antifouling coating.

Things To Know Before You Paint

- Apply any antifouling coating at least 24 hours in advance of deployment.
- Application of Propspeed requires planning so make sure you have all the required equipment and thoroughly understand the process.
- Wear protective respiratory, eye, and skin protection.
- After completing the application of the clear coat, inspect the tag. The clear coat dries to a glossy finish making it easier to find uncoated or delaminated areas.
- Avoid abrasive cleaning materials or direct high-pressure water after painting.

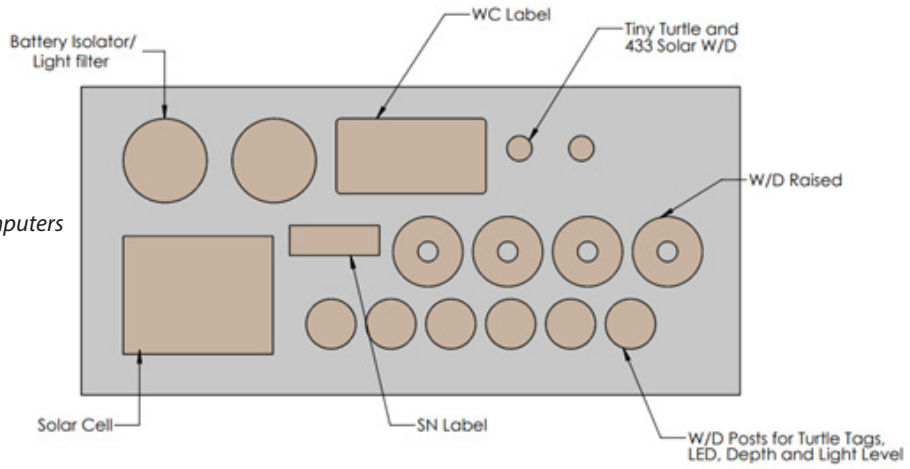
Equipment Required

- Propspeed Clear Coat
- Small (~10 mm) disposable brushes—foam or paint
- 80-100 grit sandpaper
- Mixing cups
- 20 ml syringes or spoons
- Several pairs of disposable gloves
- Drying rack or area
- Appropriate respirator, fume cabinet, or well-ventilated work area
- Rags/paper towels
- Masking tape or preferably antifouling sticker sheets (see sticker image)

SPOT-S-433 ANTIFOULING PROTOCOL OVERVIEW – CONTINUED

Non Pop-up Sticker Sheet

Provided on request from Wildlife Computers



The application of Propspeed requires planning. Make sure all application gear is on hand, everything is taped over that needs to be taped over, and you thoroughly understand the process—then you're ready to get started.

Work Area Preparation

Make sure you are in a well-ventilated area. Good lighting is essential to inspect tags to ensure proper coating and that there are no drips running down the sides.

Tag Preparation

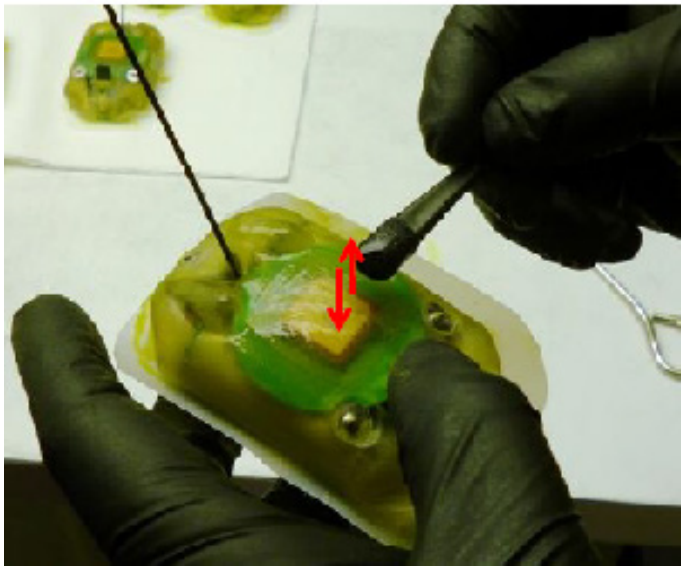
1. ***You are only painting the top surface.***
2. Lightly sand the top surface of the SPOT-S-433 tags with 80-grit sandpaper, including the two small copper wet/dry sensors (to remove any oxidation). Tags need to be sanded so Propspeed will adhere to the tag's surface. Do not sand any other parts of the tag.
    a. You will want to be firm to scratch it up but not too firm as to dig into the tag.
2. Clean the tag thoroughly with a rag and isopropyl alcohol or acetone. Do not handle the tag without gloves once the tag is clean.
3. Mask the two wet/dry sensor disks on the SPOT-S-433 with the stickers or tape. Stickers are best applied using a sharp instrument like a scalpel.

You do not need to apply a primer before applying Propspeed.

SPOT-S-433 ANTIFOULING PROTOCOL OVERVIEW – CONTINUED

Application Procedure

1. Spoon or use a syringe to place ~5 ml of Propspeed into a small mixing cup.
2. Make sure the lid of the Propspeed container is closed on the can.
3. Apply Propspeed using the dabbing method:
   - Dip a brush into the Propspeed.
   - Dab vertically onto the surface (do not brush or stroke).
   - If your brush runs out of Propspeed, dip it again.
4. Do not apply more than is needed to cover the top of the tag.
5. Ensure that the Propspeed does not run down the sides of the tag. You will have 5 to 10 minutes to touch up the top surface before the clear coat dries. You may notice moisture on the tags from "sweat." This is perfectly normal.
6. Inspect the coated area on the top of the tag for complete coverage.
   - The coating dries to a glossy finish making missed areas visible.



Note: if Propspeed drips down the side of the tag, carefully wipe it off with a rag. If the Propspeed has already dried, lightly sand the drip to remove it.

Drying and Curing

- Let the tags cure for 12 hours before touching them.
- Wait 24 hours before using the tags.
- Keep the tag flat while curing.
- Do not let the coating drip or touch other objects.
- When dry, remove tape or stickers from the two wet/dry sensors.
- Make sure both wet/dry sensor discs are clean and visible.

Post-application Handling

- Handle cured tags with gloves.
- Store in a cool, clean environment.
- Do not abrade or scratch the coated surface.

SPOT-S-433 ANTIFOULING PROTOCOL OVERVIEW – CONTINUED

Contacting Wildlife Computers

U.S. and International

Members of the Wildlife Computers technical sales and support team are located in Redmond, WA, USA, and Havelock North, New Zealand, allowing us to cover promptly a wide range of time zones.

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For Asian Clients

While we welcome your direct correspondence, we recommend that you contact our colleague, Yong Huang, for assistance. Mr. Huang understands the special purchase processes for your countries, and will provide you with the best service for the best price. He also is fluent in Japanese, Chinese, and English.

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