

PRODUCT DESCRIPTION

HydrO₂Flow PropTop outperforming conventional anti-fouling solutions, utilizes advanced Foul Release Technology, which creates an Ultrasmooth Surface. This unique formulation actively prevents the strong attachment of marine organisms, combining breakthrough protection with unparalleled efficiency.

This revolutionary system achieves a unique synergy of increased performance and reduced fuel consumption with the practical Single Component (1K) formulation, engineered to deliver superior long-term protection against marine fouling on propellers and all underwater metal components. It preserves the substrate's aesthetic appeal while dramatically enhancing performance.

Improved Hydrodynamics, HydrO₂Flow PropTop Enhances speed (2 – 3nmi) and reduces fuel consumption (5 - 12%)

Core Performance Attributes

Volume Solids:	85±2%
Surface Type:	Bronze, Aluminum, Steel, and Composites
Available Shades:	Clear
Mixing Ratio:	Single Component
Flash Point:	30°C
Application Areas:	Exterior Use Below the Waterline
VOC:	154 g/L *

* VOC content measured according to EPA Method 24. Complies with VOC limits for general-purpose marine coatings.

Recommended Applications

- Propellers, Shafts, Rudders, Trim Stabilizers
- Bow-Thrusters, Light Metal Alloys, Outdrives, Outboards
- Underwater Lighting Fixtures
- Visible Non-Ferrous Components Requiring High Adhesion

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Step 1: HydrO₂Flow PropTop Application

To ensure optimal adhesion, film integrity, and long-term performance, HydrO₂Flow PropTop must be applied following the steps below:

All coating application procedures must be carried out under controlled environmental and substrate conditions, as defined by industry standards. The product must not be applied when: Ambient temperatures fall below 5°C or exceed 35°C. Substrate temperature exceeds 35°C. Dew Point is 3°C lower than the substrate temperature. Relative Humidity is above 85% as such conditions adversely affect the overall performance of the system.

Conditions	Explanation
Temp. 5°C - 40°C	Safe margin as per industry standard
Temp. D.P. $\geq + 3^{\circ}\text{C}$	Safe margin to prevent condensation
R.H. > 85%	Increased risk of condensation and late curing

- Caution should be taken when scheduling and avoid:
 - Painting early in the morning – evening or under humid or cold conditions.
 - Application when the substrate is cold and exposed to moist air.
 - When moisture is visibly condensing and the surface presents a “sweating” effect.
- Before commencing full-scale coating application, it is strongly recommended to conduct a preliminary test on a “blind” representative sample area. This ensures compatibility, verifies adhesion performance, and allows for adjustments of techniques if necessary.

Application Tools, Paint Preparation – Mandatory Preparation

For the application of HydrO₂Flow PropTop or overcoating with itself, paint preparation and the use of brand-new rollers and brushes is mandatory. Reused or contaminated tools may compromise adhesion, surface appearance, and overall system performance.

Stirring:

- Prior to application, stir thoroughly the product, using the stirrer included in the packaging or flat-blade paddle for at least **3–5 minutes**. This ensures all solids are fully redispersed and homogeneously distributed.

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Note: Do not shake the container.

- The appearance of **HydrO₂Flow PropTop** is Clear or slightly opaque if shaken.
- Single Component product does not require mixing.

Paint Tools

Prior to use, all new application tools must be thoroughly cleaned to remove any residual lint, loose fibers, or manufacturing debris. These particles, often left behind during production, can lead to surface defects such as inclusions, streaks, or uneven texture.

Required preparation steps:

- Inspect each tool under proper lighting for visible loose fibers, bristles or dust.
- Use low-tack adhesive tape, compressed air, or clean cloths to remove loose particles.
- Rollers should be gently rolled over a clean surface to release excess fibers.
- Brushes should be flexed and tapped to dislodge any loose bristles.

Note: This procedure is essential for achieving a defect-free finish, especially for clear coat applications where surface clarity and uniformity are critical.

Application Method

- Apply by roller or brush in even, continuous motions.
- Avoid overworking the material or excessive back-rolling.
- **Recommended film thickness:** 100µm wet film thickness (WFT) per coat.

Application Method	Optimal DFT	Optimal WFT	Practical Coverage*
Airless Spray:			6.0 m ² /L
Roller:	90µm	100µm	7.5 m ² /L
Brush:			8.0 m ² /L
No. of Coats:	2 coats		
Thinning - Thinner:	Do not thin HydrO ₂ Flow PropTop		

*Practical coverage values assume a loss of approximately **30% for airless spray application** and **10% for roller** and **5% for brush application**, in accordance with **ISO 23811:2009**.

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Multiple coats may be required depending on the specification. The desired 125µm dry film thickness (DFT) is ideally achieved through two coats. This technic promotes better adhesion, ensures uniform coverage, and minimizes the risk of under or over application in a single pass.

Important Safety Note: Before initiating any surface preparation or coating activities, appropriate personal protective measures must be in place. These include, but are not limited to, the use of certified PPE (Personal Protective Equipment) such as gloves, respirators, protective eyewear, and coveralls, as well as ensuring adequate ventilation and compliance with site-specific safety protocols.

Drying & Overcoating Schedule

Step 2: HydrO₂Flow PropTop Overcoating – Drying Times

Drying times depend on ambient temperature, humidity, ventilation, and film thickness. The HydrO₂Flow PropTop system is designed to cure progressively, allowing safe handling and optimal adhesion between coats.

To ensure proper performance, the following guidelines must be observed:

- **Touch Dry:** The coating is dry to the touch but not fully cured. Avoid mechanical stress at this stage.
- **Service Dry / Launching:** The coating has cured sufficiently for exposure to water, mechanical loads, or service conditions.
- **Minimum Overcoat Interval:** The shortest time after application when a subsequent coat can be applied without compromising adhesion.

Temperature – Drying Times	15°C	20°C	25°C	35°C
Touch Dry:	4hr – 3hr	3hr - 2½hr	2hr - 1½hr	1½hr min
Service Dry:	24hr		24hr - 18hr	12hr
Overcoating:	2½hr			

* The above Drying times are reference to 90µm DFT coat.

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Application of Critical Areas & Technique

Coating must be applied uniformly across the entire surface of each propeller blade, including the leading and trailing edges, as well as the blade tips. These areas are often overlooked but are subject to high major hydro-dynamic stress and cavitation, making full coverage essential for long-term protection.

Application technique: HydrO₂Flow PropTop should be applied using a controlled motion from the root of the blade outward toward the tip, following the curvature of the blade. This method ensures consistent film build, minimizing streaking, and reducing the risk of air entrapment or uneven coverage.

- Pay special attention while painting the blade tips, where coating tends to thin due to edge tension.
- Avoid overworking the material or excessive back-and-forth strokes.
- Ensure that all edges are fully coated and visually inspected before curing.
- During application, care must be taken to avoid runs, sags, or excessive build-up of material. These defects compromise curing and long-term performance.
- If any runs or sags occur, they must be corrected immediately while the coating is still wet. Use a clean brush or roller to redistribute the material evenly, ensuring a smooth and uniform film.
- **Maximum Overcoat Interval:** The maximum time after application and prior of application of a subsequent coat.

Available Packing

130ml in metal containers

250ml in metal containers

5L in metal containers

Storage

The product must be stored in full compliance with applicable national regulations. Containers should be kept in a dry, temperature-controlled, and well-ventilated area, away from direct sunlight, moisture, and sources of ignition. All packaging must remain tightly sealed when not in use.

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Health & Safety

Always refer to the safety instructions and hazard symbols indicated on the product label. Standard protective measures must be followed, including the use of gloves, safety goggles, and respiratory protection where necessary. Ensure adequate ventilation during application and curing. Avoid inhalation of vapors and prevent direct contact with skin or eyes. In case of accidental contact, rinse thoroughly with clean water and seek medical attention if irritation persists.

Important Notes

The information provided in this Technical Data Sheet is based on internal testing and laboratory evaluations and is not intended to be exhaustive. As application conditions may vary and fall outside the control of the manufacturer, Helix Coatings guarantees only the quality of the product itself. It is strongly recommended that end users consult Helix Coatings' technical and sales representatives for tailored guidance based on the specific requirements of each project.

Any use of the product without prior consultation or without communicating the project's specific needs to Helix Coatings is at the sole risk of the end user. Helix Coatings cannot accept responsibility for product performance or any loss or damage resulting from improper use.

All information contained in this document is subject to change without prior notice.

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