



HALKRON™

ENGINEERED FOR SUPERIOR, LONG-TERM PERFORMANCE



HALKRON™

High Performance Foul-Release System

COMPLETE SYSTEM GUIDE FOR SURFACE PREPARATION &
COATING APPLICATION

**Direct-Bond Hydrophobic Foul-Release System for Underwater
Metal – Engineered for Superior Long-Term Performance**

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HALKRON™ System Design Intent

HALKRON™ is engineered as:

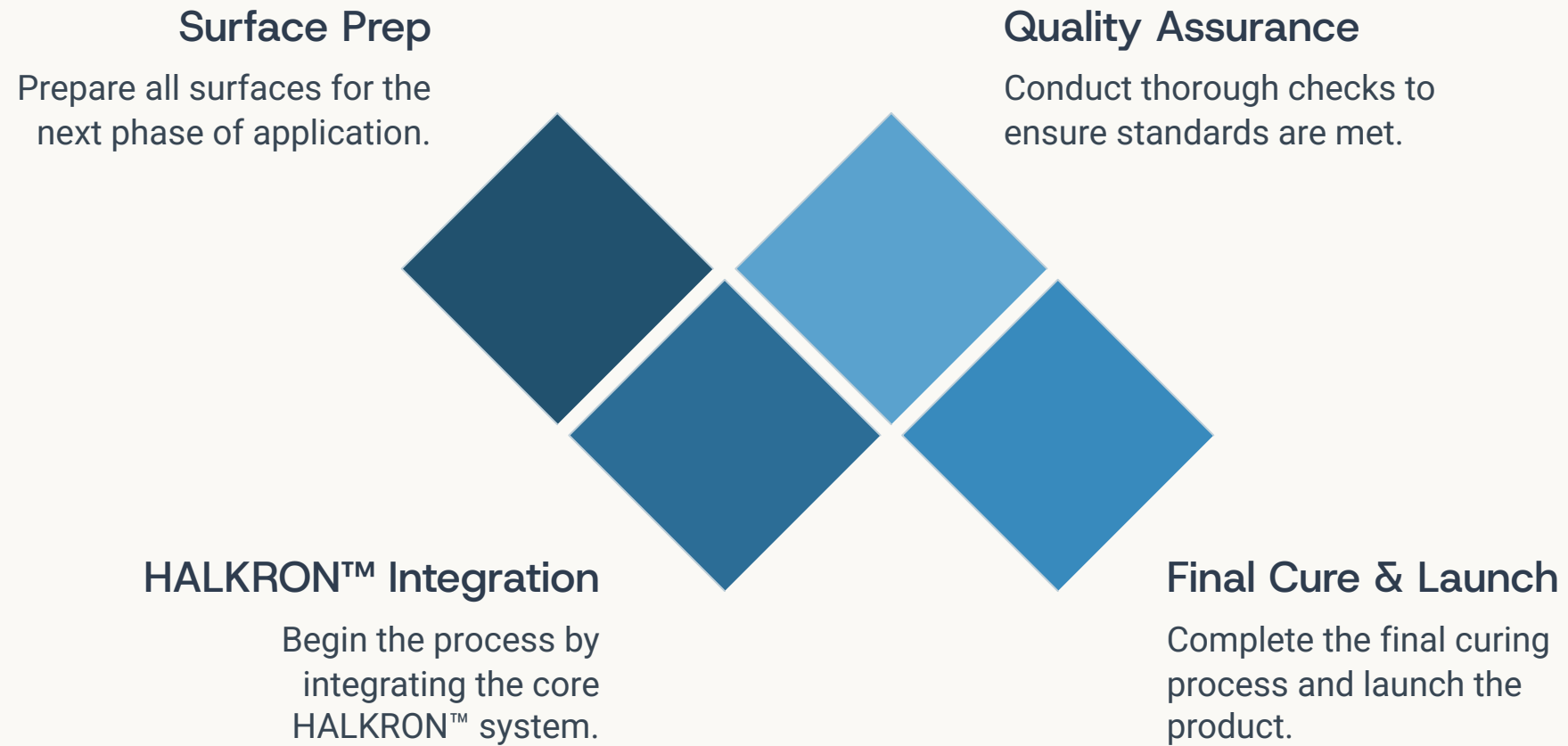
- A foul-release system for underwater metal protection
- A direct-to-metal bonded coating system
- A single-film architecture that is stackable during the application process
- A renewable coating designed to be reapplied over existing HALKRON™ coatings
- A long-lasting coating with an indefinite service life when properly maintain

HALKRON™ is compatible with:

- Properly prepared bare metal surfaces as the substrate for HALKRON™
 - Previously applied and properly prepared intact HALKRON™ coatings
- HALKRON™ is **not engineered** for application over existing foreign metal coating systems. If coating systems other than HALKRON™ exist, they must be fully removed to completely expose the metal substrate before applying the HALKRON™ system. The integrity of the metal interface determines the integrity of the HALKRON™ coating system.

HALKRON™ System Structure

The HALKRON™ High-Performance Foul-Release System application process consists of:



No Primer Required

Single-layer system with no intermediate primer layer required to effectively bond to metal surfaces. "Stacking" multiple coats is encouraged to achieve proper coating thickness ensuring optimal service life and performance.

Flexible Process

The process does not require a strict time window and can be completed by a single installer.

Film-First Performance

The film itself performs the primary function of the system.






Surface Condition Objective

Before coating, the substrate must be:

- **Structurally sound**
- **Free of previously applied coatings and substances other than HALKRON™**
- **Free of oxidation, corrosion, and marine residue**
- **Mechanically profiled**
- **Clean, dry, and uncontaminated**

📄 A **visually uniform surface** is required. HALKRON™ bonds mechanically and directly to properly prepared metal metal surfaces.

Surface Preparation & Profiling for First-Time Application

Brush Off	Industrial	Commercial	Near White	White Metal
 <p>SSPC SP7 NACE No.4 ISO Sa 1</p>	 <p>SSPC SP14 NACE No.8 ISO ---</p>	 <p>SSPC SP6 NACE No.3 ISO SA 2</p>	 <p>SSPC SP10 NACE No.2 ISO ---</p> <p>ISO SA 2½ up to 15% discoloration, streaks, shadows</p>	 <p>SSPC SP5 NACE No.1 ISO SA 3</p>
Loose Contamination	None	None	None	None
Tightly Adhered Residue	100%	up to 10%	None	None
Discoloration*	100%	100%	up to 5%	None

*Discoloration includes variations in color such as rust tint, stains, streaks, and shadows. These differences are surface-level only and do not affect the underlying substrate.

Tightly Adhered Residue: Any firmly attached material that cannot be removed using a standard putty knife or similar hand tool.

Surface Preparation Standard for HALKRON™ Application:

HALKRON™ requires a properly prepared, bare metal surface to achieve full molecular adhesion and long-term performance.

Minimum Required Standard: Near White Metal (SSPC-SP10 / ISO SA 2½) – Surface must be abrasive blasted to remove all visible contaminants, with only slight discoloration or shadowing (up to ~15%) permitted.

For best results, surfaces must be clean, dry, and coated immediately after blasting to prevent contamination or flash rust, as shown in the reference chart above.

All previously existing coatings other than the HALKRON™ system must be completely removed from the substrate.

Profiling may be achieved through:

1	2	3
Mechanical sanding 80 Grit	Rotary abrasion tools	Controlled abrasive blasting processes

The objective is to establish:

- A consistent mechanical anchor pattern
- No smooth surface areas
- No burnished areas
- No embedded contaminants

The surface should present a **consistent bare metal appearance**. Overworking metal surfaces can create a polished finish that reduces adhesion.

Mixing Procedure – HALKRON™ + Nano Bind

HALKRON™ uses an activation system through the addition of HALKRON™ Nano Bind. Proper mixing ensures correct chemical network formation and long-term coating integrity.

Step 1 – Base Homogenization

Agitate HALKRON™ thoroughly until uniform. Ensure no settlement remains at the bottom of the container.

Step 2 – Nano Bind Integration

Gradually introduce the full amount of Nano Bind provided in the blue bottle into the HALKRON™ container while gently stirring. Continue stirring for a minimum of **3-minutes**. Use a low-speed mechanical mixer when available or a clean stir stick if necessary. Avoid creating a vortex or air bubbles while mixing. Allow the mixture to rest for at least **4-minutes** after mixing.

Step 3 – Usable Working Window (Pot Life)

Apply the mixed product to prepared surfaces within **4-hours** of mixing HALKRON™ with Nano Bind. Keep the container closed when not actively dispensing product. Do not attempt to extend the working window by adding solvents.

IT IS RECOMMENDED TO MIX HALKRON™ WITH NANO BIND BEFORE CONDITIONING THE SUBSTRATE WITH MAXPREP™ SURFACE CLEANER IN ORDER TO ALLOW THE MIXTURE TIME TO PROPERLY ACTIVATE PRIOR TO APPLICATION.

HALKRON MAXPREP™ Surface Cleaner – Surface Conditioning

HALKRON MAXPREP™ Surface Cleaner is designed to:

- Lift and remove embedded contaminants
- Eliminate invisible surface oils
- Stabilize substrate surface energy
- Optimize bonding conditions



HALKRON MAXPREP™ Surface Cleaner is *not*:

- A wipe
- A detergent degreaser
- A primer

☐ Conditioned surfaces must be **completely dry** before applying the HALKRON™ coating. This step ensures long-term coating integrity.

Surface Conditioning & Contamination Control

After mechanical preparation:

1 Remove loose particulate

Using oil-free compressed air.

3 Allow full flash dry

Drying should complete within approximately **15 minutes**. Prepared surfaces must not be touched with bare hands.

2 Apply HALKRON MAXPREP™ Surface Cleaner

Mechanically agitate the cleaner into the surface using a clean cloth. Remove any remaining residue.

4 Apply HALKRON™ coating with minimal delay

Apply after cleaning to reduce contamination risk. If contamination occurs, repeat the surface conditioning process.

HALKRON™ Application Principles

HALKRON™ may be applied using:



**Solvent-Resistant, High
Density Foam Roller**



**Solvent-resistant, High
Quality Brush**

Application requirements:

- Ambient air temperature: **50°F to 90°F (10°C to 32°C)**
- Thin, even film layers
- Continuous coverage of all prepared metal surfaces
- Avoid heavy pooling, runs, or sags
- Avoid dry spray texture

Complete each layer by brushing hard-to-reach areas not coated by roller or spray. Do not apply additional coats until the previous coat is dry to the touch.

HALKRON™ functions as a **single-film system** with no primer required. Stacking multiple coats is encouraged to achieve proper coating thickness ensuring optimal service life and performance.

- ❏ Only use as much activated product as needed for immediate application. Leaving excessive product exposed to air may cause premature curing of activated contents in containers being used for application.



HALKRON™ Curing & Conditions

Allow full chemical cure prior to immersion in water.

48hrs

Required Cure Time

Recommended conditions:

Ambient Temperature	50°F to 90°F (10°C to 32°C)
Relative Humidity	Ideal range: 50% to 80%

After full cure, HALKRON™ forms:

- Clear bonded finish
- Extreme hydrophobic surface
- Low surface energy interface
- Stable adhesion to metal

❏ Prematurely submerging coated surfaces in water prior to full recommended cure time may compromise the integrity of the coating.

HALKRON™ System Service Life Objective

The HALKRON™ Coating System is designed for an **indefinite operational service life** when properly maintained.

INDEFINITE

Service Life Objective

Under standard marine operation and routine maintenance

Routine Cleaning Supported

The coating supports routine cleaning throughout its service life and does not rely on erosion for performance.

Stable Film Thickness

Film thickness remains stable over time.

Haul-Out Inspection Required

All HALKRON™ coated surfaces should be inspected during every haul-out. Small areas may become exposed due to normal wear & tear, and should be repaired immediately

***THE THICKER THE BETTER IF YOU RECOAT YOUR UNDERWATER METALS WITH HALKRON™ AT EVERY HAUL-OUT, THE OVERALL PERFORMANCE OF YOUR COATING WILL ONLY IMPROVE OVER TIME.**

Renewal/Repair on Existing HALKRON™ System Coatings

If existing HALKRON™ coatings remain intact and fully bonded:

01

Clean surfaces

Remove marine growth and salt deposits.

03

Lightly abrade the surface

To create a mechanical key.

05

Reapply HALKRON™ + Nano Bind mixture

Allow full **48-hour cure**.

02

Inspect coating

Check for exposed metal or adhesion failure.

04

Perform MAXPREP™ surface conditioning

- ❏ **Full removal of existing HALKRON™ coatings is not required** when reapplying the system. If bare metal or adhesion failure is present, only affected areas must be restored to bare metal and treated as a new installation.

Maintenance of HALKRON™ System Coatings

Routine cleaning and maintenance are expected as part of normal marine operation.

Maintenance should:

- Avoid aggressive scraping, scratching, or grinding
- Preserve film continuity
- Maintain hydrodynamic surface condition

☐ RECOMMENDED METHODS FOR IN-WATER CLEANING & MAINTAINANCE OF COATED SURFACES:

- BLADE AWAY LOOSE GROWTH USING SMALL SILICONE SQUEEGEE
- WIPE OFF LOOSE GROWTH WITH MICROFIBER TOWEL
- IF NECESSARY, YOU MAY USE A SOFT WHITE NYLON SCRUBBING PAD TO REMOVE ANY REMAINING SUBSTANCES ON COATED SURFACES

If cleaning exposes bare metal, the area must be repaired before continuing operation.

Safety & Handling



Respiratory Protection

Use respiratory protection during sanding operations.



Eye Protection

Wear gloves and eye protection during surface cleaning and when mixing HALKRON™ and Nano Bind.



Ventilation

Ensure proper ventilation during preparation and application.



SDS Documentation

Follow HALKRON™ SDS safety documentation.

HALKRON™ System Summary

New / First-Time Application Procedure

01

Remove all existing coatings from substrate

02

Establish mechanical profile

03

Mix HALKRON™ + Nano Bind

04

Perform MAXPREP™ surface conditioning

05

Apply HALKRON™ coating

06

Allow full cure – 48 hours

Reapplication / Repair Procedure

01

Clean protected surfaces

02

Inspect coating

03

Lightly abrade surface

04

Mix HALKRON™ + Nano Bind

05

Perform MAXPREP™ surface conditioning

06

Recoat HALKRON™

07

Allow full cure – 48 hours

Product Features

Direct bond to metal substrate

Layer stacking optional but increases performance and service life

Designed for repeat reapplication cycles

Maintains film integrity over time

Engineered. Controlled. Direct-to-metal performance.

HALKRON™

ENGINEERED MARINE METAL PROTECTION

