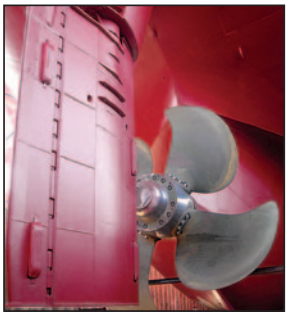
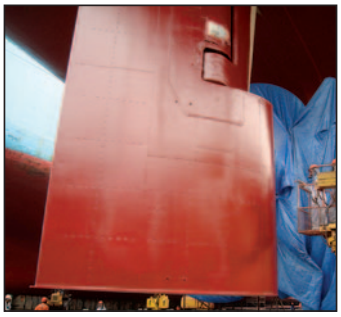
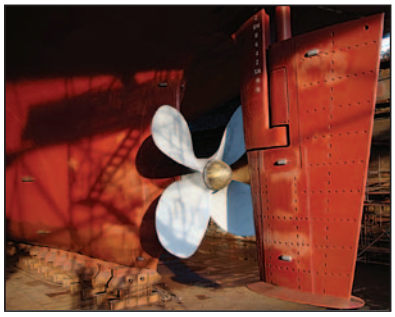
SUBSEA

PROTECTION AND PERFORMANCE

Magazine 272

LASTING PROTECTION









Ecoshield gives a very thorough and lasting defense against cavitation and corrosion damage for a ship hull's entire service life.

The coating equally provides the rudder with an impenetrable protective layer while its flexibility enables absorption of the forces that are produced by cavitation. This prevents the damage normally caused by this phenomenon.

Without proper protection against cavitation and the resulting erosion and corrosion damage, the financial consequences can be severe.

By removing the existing paint layers and applying Ecoshield on the rudder we can break the never ending cycle of painting, suffering damage, having to perform extensive repairs in drydock followed by a full repainting, again and again.

With an Ecoshield application no full repaint will be needed during drydocking. Ecoshield is guaranteed for ten years. At the most, minor touch-ups will be required.

Subsea Industries NV
+ 32 3 213 5318
info@subind.net
www.subind.net

Editorial

As the founder of Subsea Industries, I have spent decades observing the challenges ship owners face in balancing operational efficiency, environmental responsibility, and long-term profitability. Today, with stricter regulations, volatile fuel prices, and growing demands for sustainability, the need for innovative solutions has never been greater. That is where our advanced coating technologies deliver measurable value.

Our non-toxic, biocide-free coatings are engineered to protect vessels from biofouling without releasing harmful substances into the ocean. This not only ensures compliance with evolving environmental standards but also helps ship owners contribute to a cleaner and healthier marine ecosystem. Unlike traditional antifouling paints that rely on leaching toxins, our solutions create a fully inert barrier, eliminating ecological impact while maintaining hull integrity.

After every cleaning Ecospeed is restored to its original smoothness.

We achieve this by combining our coating systems with in-water hull cleaning as needed. As the coatings do not leach any poison into the water, biofouling will appear on them. Any degree of fouling can however be safely removed. The coating is restored to its original smoothness, allowing you to sail again with a fouling-free hull and an intact coating at all times.

The financial advantages are very compelling. A fouling-free hull drastically reduces hydrodynamic drag, leading to significant fuel savings and lower greenhouse gas emissions. Over a vessel's lifecycle, this translates to millions in reduced operational costs and a notable reduction in carbon footprint—a win-win for both profitability and sustainability.

Durability is another hallmark of our coatings. Designed for long-term performance, they withstand the harshest marine conditions without frequent reapplication. This minimizes dry-docking needs, maximizes uptime, and extends a ship's service life. The result is a coating system that delivers predictable, long-term ROI while supporting fleet-wide operational efficiency.

At Subsea Industries, we believe the future of shipping hinges on embracing solutions that are not only economically sound but also environmentally responsible. Our coatings represent a proven, forward-looking choice for ship owners aiming to thrive in a rapidly evolving maritime sector. Together, we can navigate towards a greener, more efficient, and more profitable future for global shipping.

Subsea Industries NV
Boud Van Rompay
Founder

+ POOL plus Ecolock

A highly innovative project in New York City, + POOL, chose Ecolock to protect the underwater structure of the floating pool, for a number of excellent reasons.

+ POOL Rendering. Designed by Family New York & Playlab, Inc. Image Family New York.

What is + POOL?

The idea of a non-chlorinated water-filtering, floating swimming pool in the East River in New York City was born in 2010. The rendering provides an excellent idea of the scope of the project which has already attracted international acclaim.

The history of + POOL over the intervening 15 years demonstrates that there are some very determined people behind the project with more than their fair share of stamina, overcoming all obstacles, following a clear purpose: "Provide free and safe access to the river for swimming, educate the public on issues affecting water quality and promote water stewardship."

In 2011, the + POOL idea was confirmed as feasible by global built environment consultancy Arup who engineered the filtration system and is one of the most innovative engineering firms in the world. In August 2024, the search for the ideal site culminated in Governor Hochul and Mayor Adams announcing Pier 35, near the Manhattan and Brooklyn Bridges, as the site for + POOL.

The first test pool shell after construction at Bollinger Shipyards, prior to preparation for painting.

A major milestone was reached at the end of July 2025 when the rectangular shell of the pilot version of the pool finally hit the water. Next it will be fitted with the filtration system, decking, etc. and will be installed at Pier 35 for a final season of testing in 2026. The full plus shape design will be built once the pilot is approved by officials.

Many competent shoulders to the wheel

Engineering was placed in the hands of Seattle-based Elliott Bay Design Group. Established in 1988, EBDG is a full-service marine engineering and naval architecture firm, leaders in decarbonization, alternative fuels, and cutting-edge design practices that help maritime transportation realize a future in harmony with nature – a perfect fit for + POOL

Application of first coat of Ecolock directly to the grit blasted steel by USA DeBusk at Bollinger Shipyards.

Application of the second and final coat in the chosen color. Ecolock can be overcoated after 3 hours with no maximum overcoat time.

which is a very environment-conscious, sustainable, future-looking project.

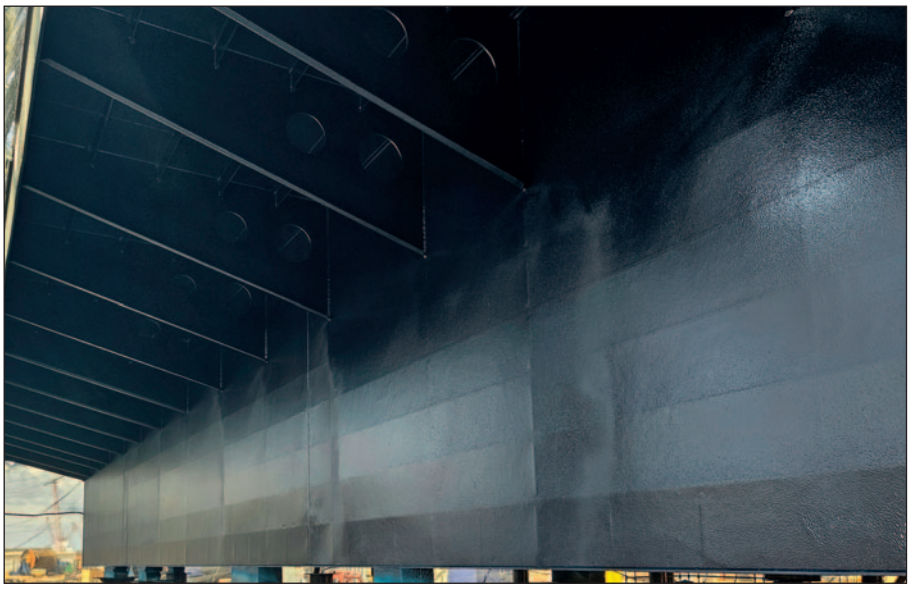
EBDG is proud to partner with Adaptive Marine Solutions on the + POOL project. AMS is a world-class Canadian marine firm specializing in innovative ship and maritime design and engineering. "Together our collective expertise in design and construction modeling of a wide range of unconventional floating structures makes our team ideally suited to bring this innovative floating swimming pool to NYC's East River," announced EBDG just ahead of construction of the test pool at Bollinger Shipyards in Louisiana. The project showcases the companies' commitment to creativity and pushing boundaries that go beyond traditional marine design.

Bollinger Shipyards, who recently finished construction of the pilot pool shell, is a key player in the US steel and aluminum ship and boat building industry with 78 years of experience, thirteen shipyards and forty drydocks in Louisiana and Texas.

The construction of the + POOL project is led by Sciame Construction LLC ("Where building is an art"), a NYC-based construction management firm, recognized throughout the Tri-State area as a leader for highly designed and technically sophisticated construction projects.

Protecting + POOL – Ecolock

When Bollinger finished building the shell for the first test pool this summer, it was time to paint the steel. The coating chosen for the project was Ecolock from Subsea Industries. Ecolock is a specialized marine coating designed specifically to provide lifelong corrosion protec-



The first and second coat combined create a dry film thickness (DFT) of at least 1000 microns (40 mil).

Close-up of the finished paintwork which will last decades without the need to repaint.

tion for static offshore vessels and structures intended to remain stationary for decades with minimum maintenance. The coating, in use on a number of offshore assets, has several unique advantages: it is entirely non-toxic to the marine environment, which is particularly important for this application; its use dispenses with the need for anodes or cathodic protection, which are usually required for such applications; the coating can be cleaned in the water as needed without any harm to the coating or to the marine environment.

After considerable research, EBDG settled on Ecolock as the solution for protecting the underwater structure and this recommendation was accepted by + POOL.

Mike Complita, Principal in Charge and VP Strategic Expansion for EBDG, explains the reasoning behind the choice. “We learned about Ecolock a year or so before this project opportunity and were impressed by a number of factors that have proven to be challenges with conventional epoxy coating systems. As we began working on the + POOL project and learned more about their mission, project goals and specific needs, Ecolock, quickly rose to the top of the list as the best choice for the project. + POOL will serve the NY waterfront for 20 to 30 years or more without moving, which presents a challenge for conventional anti-fouling systems. Ecolock does not slough like conventional anti-fouling systems, and being glass-based, it eliminates harmful chemical release to the water. Also, due to its unusual proportions and permanent pile mooring, hauling the pool out to refresh coatings and replace zincs is highly impractical. Ecolock eliminates these challenges and at most will require only an occasional light cleaning in position by divers.” Mike concludes, “+ POOL is not only a community swimming pool, it filters and cleans the harbor water making it safe for users and then returns the clean water to the harbor. A hull coating system that similarly enhances, not harms, the environment is also a must.”

Finishing application of the second coat of Ecolock.

Ecolock comes in any color required. + POOL has chosen a beautiful deep blue for the outside of the pool.

The fully coated test pool shell at Bollinger, ready for transportation.

Detail: shell of pilot + POOL with Ecolock coating, Just lifted into water at Port Newark, 30 July 2025. (Image from Friends of + Pool)

Application

Ecolock is very easy to apply. The coating was carried out at Bollinger by USA DeBusk. Headquartered in Deer Park, Texas, USA DeBusk offers integrated surface preparation and coating services for small and large projects. They carried out a highly professional and smooth application of Ecolock to the + POOL shell. Application guidance was provided by Andi Hermans, Production Manager and, in this case, on-site inspector for Subsea Industries.

Conclusion

The mission of + POOL is to promote the preservation, restoration, and public access to natural bodies of water, while also providing top-notch free and low-cost swim instruction and environmental education for residents of New York City. The goal is to create a future where everyone can enjoy the water that surrounds them.

The pool installation in New York's inner harbor, along with other possible locations throughout the state and beyond, will bring this vision to life. This innovative pool will have the capability to filter 1,000,000 gallons of water per day while cleaning the river. The patented filtration system consists of three layers and a final UV disinfection process, ensuring that the water meets the standards for safe swimming.

+ POOL is not just a single pool, but rather four pools in one that create a spacious 9,000 sq. ft. plus-shaped recreational space: a kids' pool, sports pool, lap pool, and lounge pool. Each section can be used independently to cater to different types of swimmers, or they can be combined to create an Olympic-length lap pool. With its unique design and waterfront location, + POOL is set to become an iconic piece of public infrastructure, accessible to all residents of New York City and visitors from around the world.

The pilot pool is now in the water. A major step towards completion.

Ecolock will make sure that the structure remains sound and corrosion free for its service life without leaching any harmful chemicals into the surrounding water. ■

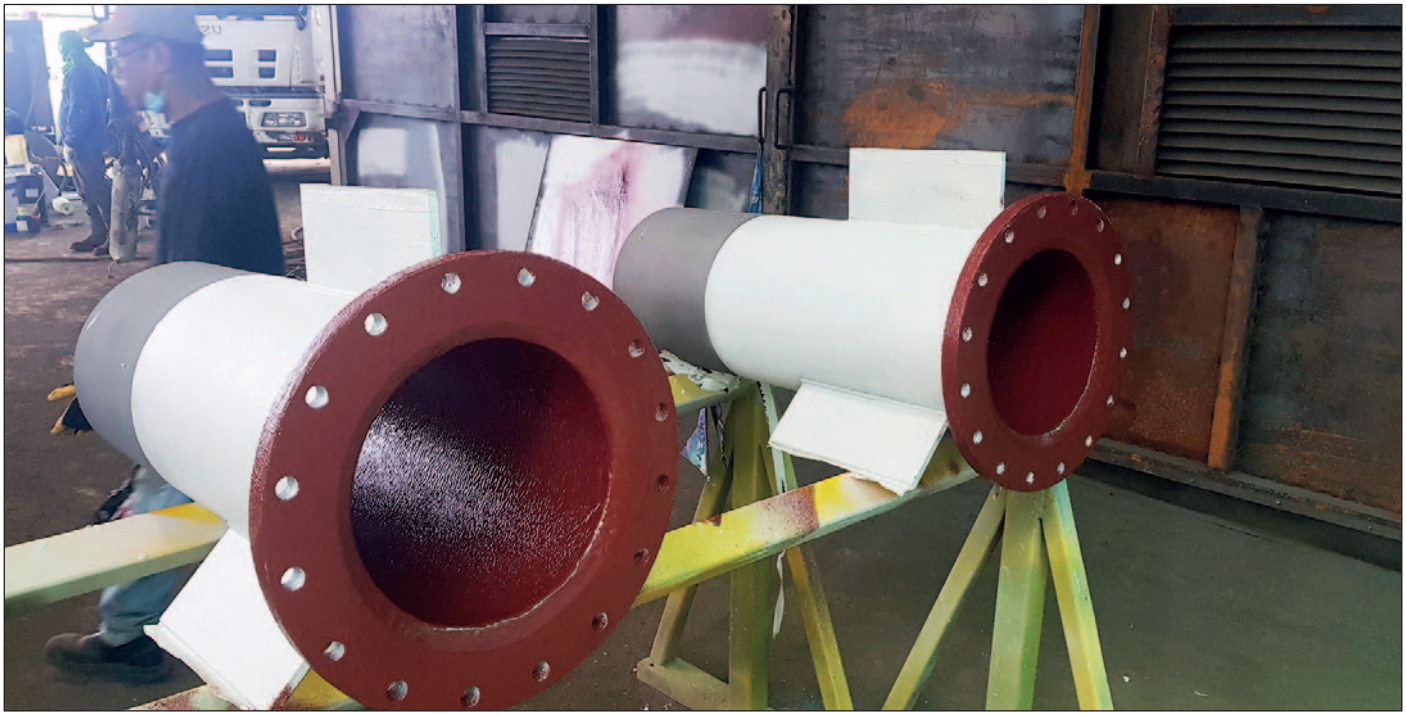
Protecting scrubbers: Why Ecospeed is the best solution

The rising use of exhaust scrubber systems across maritime fleets has led to a hidden problem: severe corrosion of mild-steel scrubber pipes, outlets, diffusers, recycle tanks, and surrounding hull areas. Without adequate protection, acidic washwater can penetrate weld seams or hull plating, resulting in water ingress into engine rooms, ballast tanks, and cargo holds—with costly operational consequences.

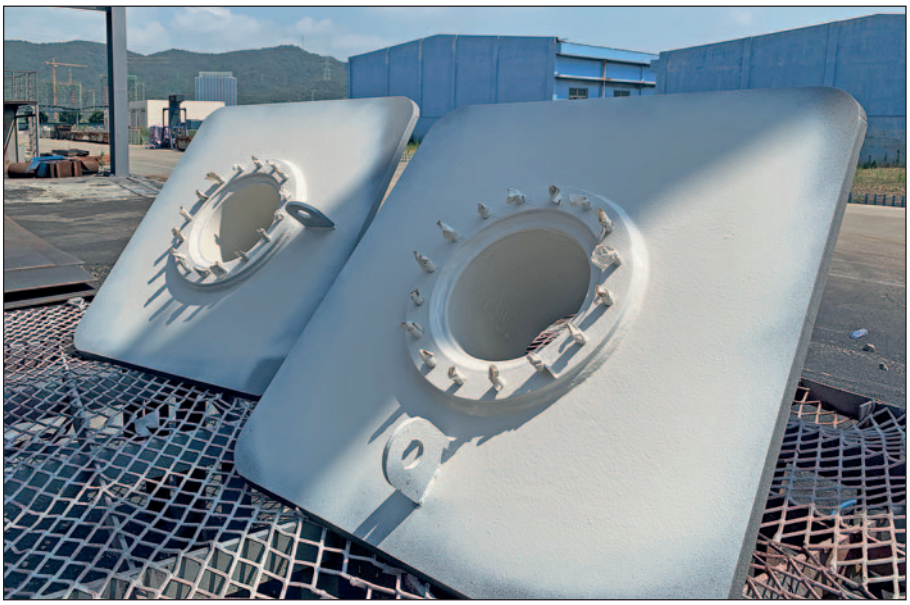
Highly corrosive wastewater in open-loop scrubbers can erode unprotected steel within months, especially near overboard pipes and outlet zones.

Given the danger and the expense of unscheduled drydock repairs, proactive, permanent protection is paramount for scrubber reliability.

Ecospeed will protect the area around the outlets for the ship's entire lifetime

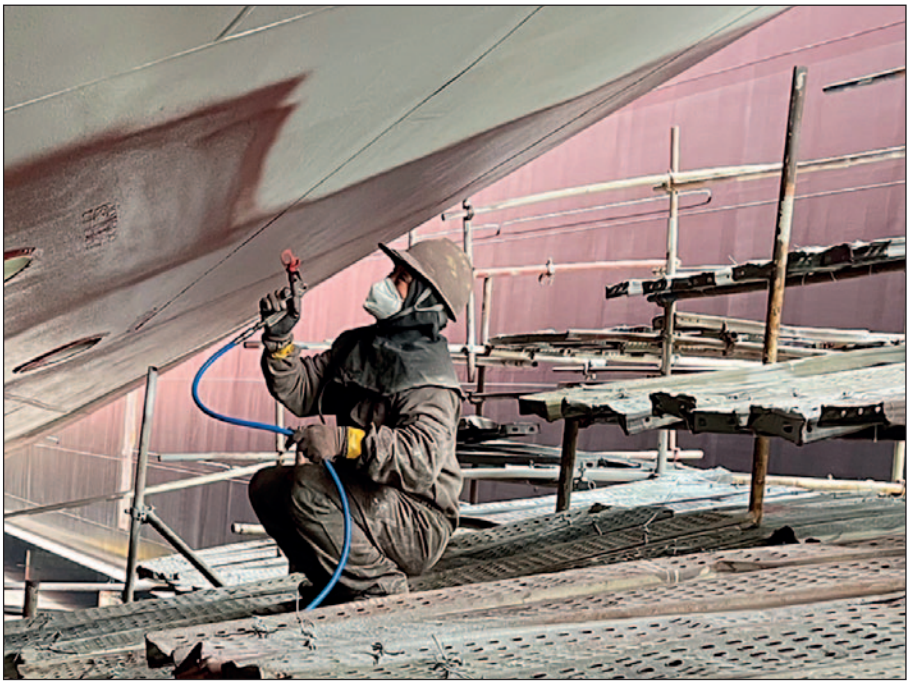


Ecospeed is chemically resistant and will withstand the corrosive elements in scrubber effluent.



Scrubber overboard pipes and outlet plates after Ecospeed application.

No corrosion damage will appear on scrubbers coated with Ecospeed.



Ecospeed application on area around the scrubber outlet.

Ecospeed: Engineered for scrubber protection

1. Chemically resistant and durable

Ecospeed can resist aggressive acid and alkali exposure from scrubber washwater. Case studies show that if the coating is applied inside pipes, outlets, diffusers, and recycle tanks it can withstand continuous exposure for years with no visible degradation.

One shipyard supervisor described Ecospeed's condition after two years as, "still in excellent condition" and "looking fresh after cleaning."

2. Lifetime coverage with no recoat required

Once applied, Ecospeed remains intact for the vessel's entire lifespan. No recoats are necessary during future dockings, saving operators significant time and operational expense. Overcoating intervals can be as short as three hours, enabling fast turnaround during application.

3. Repairs underway, without drydock

When corrosion has already set in, Hydrex (Subsea Industries' sister company) can replace corroded pipe sections on vessels at anchor or quayside, then apply Ecospeed either before or after welding. This avoids costly drydock visits and extended downtime.

4. Proactive protection prevents leak emergencies

Even before corrosion becomes visible, replacement pipes coated with Ecospeed can be installed proactively. This preventive approach keeps ships operational without unexpected failures or emergency repairs.

Corrosion damage repair made very easy

Subsea Industries has a product for filling and building up a corroded and pitted steel surface to its original form prior to recoating with Ecoshield. Ecofix is as tough as the steel itself, machinable, and can be used to repair most pitting or corrosion damage on rudders, stabilizer fins, thrusters and other underwater gear.

Ecofix is used in combination with Ecoshield, the ultimate rudder protection coating. When a rudder or other piece of underwater ship gear has not been properly protected, the surface will become corroded.

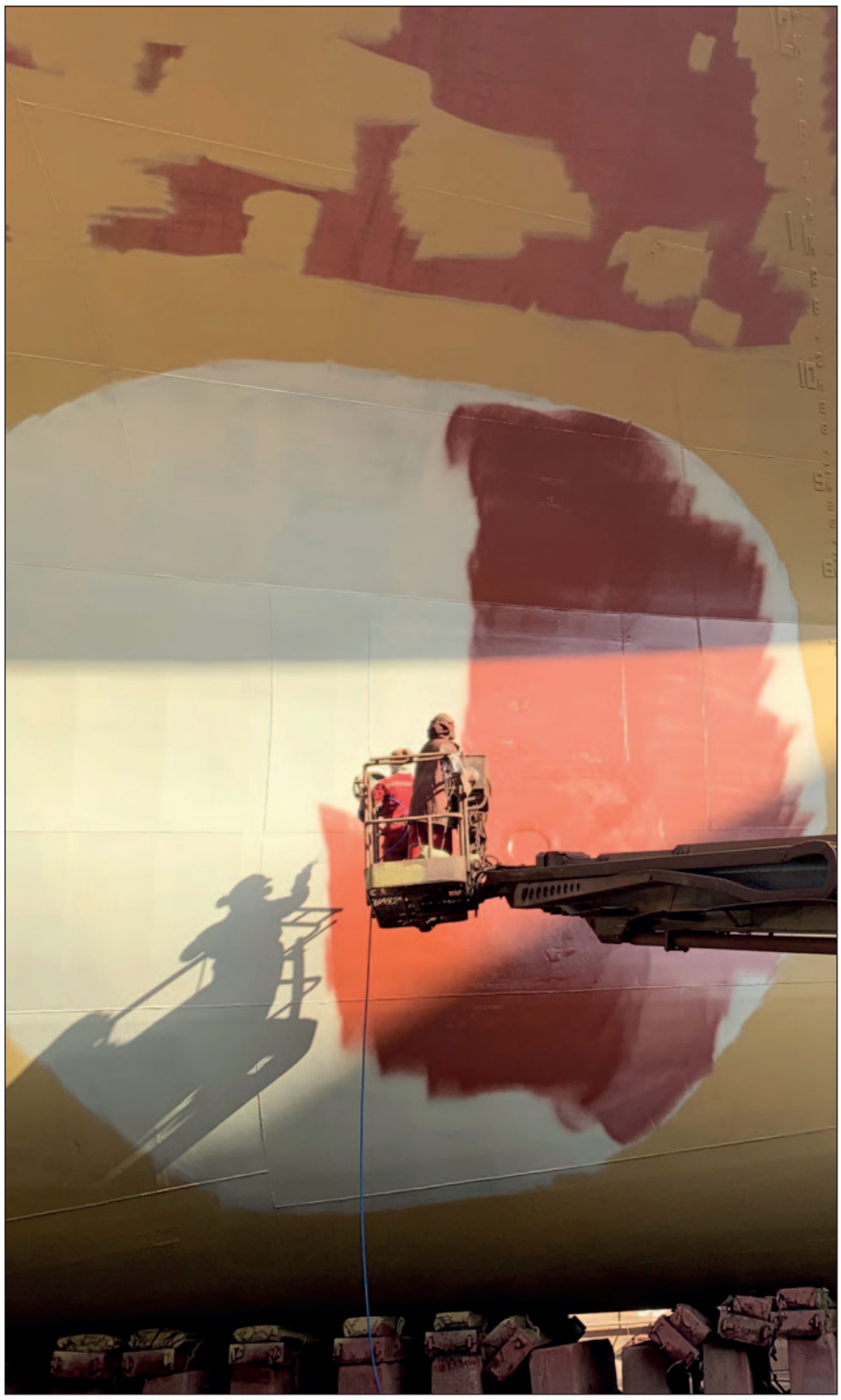
Cavitation can cause severe pitting. The steel needs to be restored to its original shape with a smooth surface prior to recoating.

This is where Ecofix comes in. It is a superior, tested and proven filler. Because it uses the same basic resin as Ecoshield, the coating can be applied just one hour after the filler. The bonding and hardness are extraordinary. This is the effective alternative to very expensive fillers. And because it is part of the Ecospeed/Ecoshield family, it is fully compatible with our coatings.

ECOFIX®
CORROSION REPAIR

Key advantages at a glance

Benefit	*Description*
Chemical resistance	Withstands aggressive scrubber effluent; prevents steel degradation.
Durability	Lasts vessel lifetime—no need for repainting during service.
Fast application & repair	Quick overcoating; on-site repairs afloat without drydock.
Cost and time savings	Eliminates unscheduled downtime, avoids costly hull penetration incidents.



The second layer can be applied as soon as 3 hours after the first.

Inside of scrubber after application of second Ecospeed layer.

Ecospeed application on scrubber pipe.

Conclusion

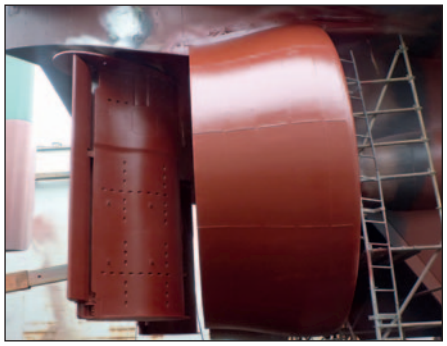
Ecospeed delivers proven, robust protection in one comprehensive coating system tailored to withstand the chemical, thermal, and mechanical challenges of scrubber installations. Its long-term durability eliminates repaint cycles. Add its on-site application and repair flexibility, and Ecospeed becomes the intelligent choice for operators who must safeguard scrubber pipes, outlets, and tanks against corrosion and unplanned operational disruption.

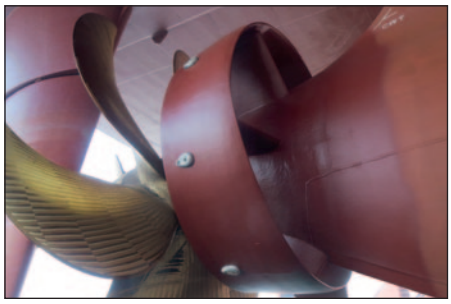
If you'd like more details on specifications, application methods, or case-by-case cost comparison, our team will be glad to assist you. ■

+32 3 213 53 00
info@subind.net

SUBSEA

PROTECTION AND PERFORMANCE





Subsea Industries NV, was founded in 1983 specifically to take care of the design, development and marketing of what has become an evolving line of underwater hull and propeller cleaning equipment as well as the line of hard hull coating systems.

All products produced by Subsea Industries have the same goal in mind: To keep the underwater part of your vessel in the best possible condition for its entire lifetime at the best possible performance.

Subsea Industries NV
+ 32 3 213 5318
info@subind.net
www.subind.net

09/25