

SUBSEA

PROTECTION AND PERFORMANCE

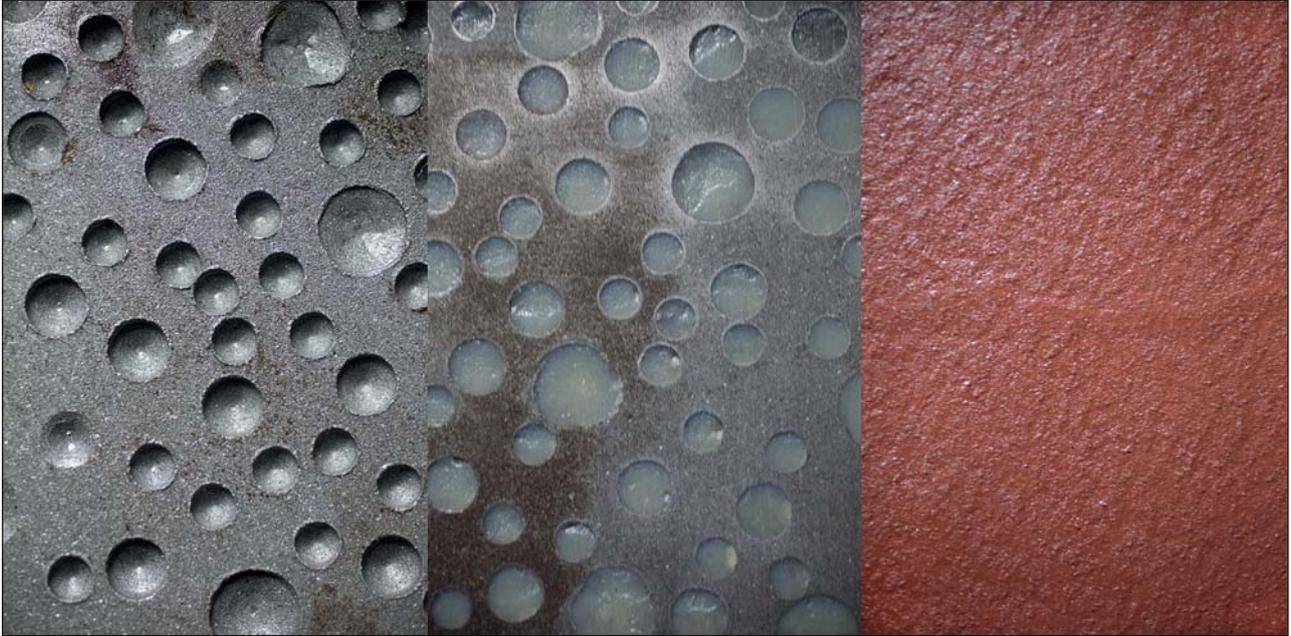


Magazine



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Corrosion damage repair made easy



Test plate showing the benefit of an Ecofix and Ecoshield combination.

Subsea Industries has launched a new 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 damage 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 metal facing or very expensive alternative fillers. And because it is part of the Eco-speed/Ecoshield family, it is fully compatible with the coating. ■

ECOFIX[®] **CORROSION REPAIR**

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Editorial



Welcome to the first Subsea Magazine of the new year. I sincerely hope you had a wonderful holiday season and a good start of the new year and I would like to wish you all the best for 2019.

As you can read further on in this magazine, the past year was a very productive one for Subsea Industries. In the article we look back at some of the important Ecospeed applications. This year promises to be equally busy with several upcoming big projects.

We start the magazine with the 10th IBJ Awards. During a ceremony in Ghent, we received the Environmental Protection Award. We are very proud that our Washable Coating project has been recognized by the jury. It is a further incentive to keep on working towards our goal: Clean rivers, seas and oceans.

We hope you enjoy reading this magazine. Feel free to contact us if you want more information on Ecospeed or one of our other products.

Subsea Industries NV
Boud Van Rompay
Founder

Subsea Industries wins Environmental Protection Award at the 10th IBJ Awards

On November 19, Subsea Industries won the Environmental Protection Award at the 10th IBJ Awards, held at The Eskimo Factory in Ghent. The award was presented by Ray Girvan, Publisher of International Bulk Journal and Femke Breninkmeijer, Port of Amsterdam's Head of Energy, Bulk, Agri, Breakbulk & Offshore.

Our Public Relations Officer Tamara Slight accepted the award on behalf of our company. She said: "We are delighted to receive this prestigious award. We know that the judges are highly expert and discriminating and we take the award as a very valuable acknowledgement for our achievements with our line of environmentally friendly washable coating systems."

Below you can find the winning entry.

The washable coating

Ship hulls should be protected with a system that lends itself to fast, effective cleaning without risk of damage to the coating and without posing any kind of hazard to the environment. Ecospeed is this system.

There is currently no hull coating available which will not foul. The only way to remove this fouling is to clean it off. The Ecospeed coating has a glassy surface that was design-



Subsea Industries won the award for their washable coatings.

ed to be washed without being damaged. This enables fast and efficient fouling control throughout a ship's entire service life.

Underwater maintenance

Underwater maintenance of Ecospeed is carried out with specially designed underwater hull cleaning tools that simultaneously remove all fouling and optimize the smoothness of the paint surface. It allows divers to clean the flat areas as well as the harder to reach parts of the hull without damaging the coating.

One of the many unique characteristics is that with repeated under-



Subsea Industries CEO Boud Van Rompay with the award.



The 10th IBJ Awards was held at The Eskimo Factory in Ghent.

water hull cleaning the coating's surface improves. Cleaning can be carried out whenever needed, at any point in its lifespan.

High-pressure cleaning in drydock

Ecospeed can also be cleaned in drydock with high pressure tools. With Ecospeed the coating is always in a brand-new, excellent condition after a high pressure washing and no material is lost. Only the fouling is removed. The coating stays on the ship instead of dispersing in the water and contaminating the shipyard and the surrounding waters.

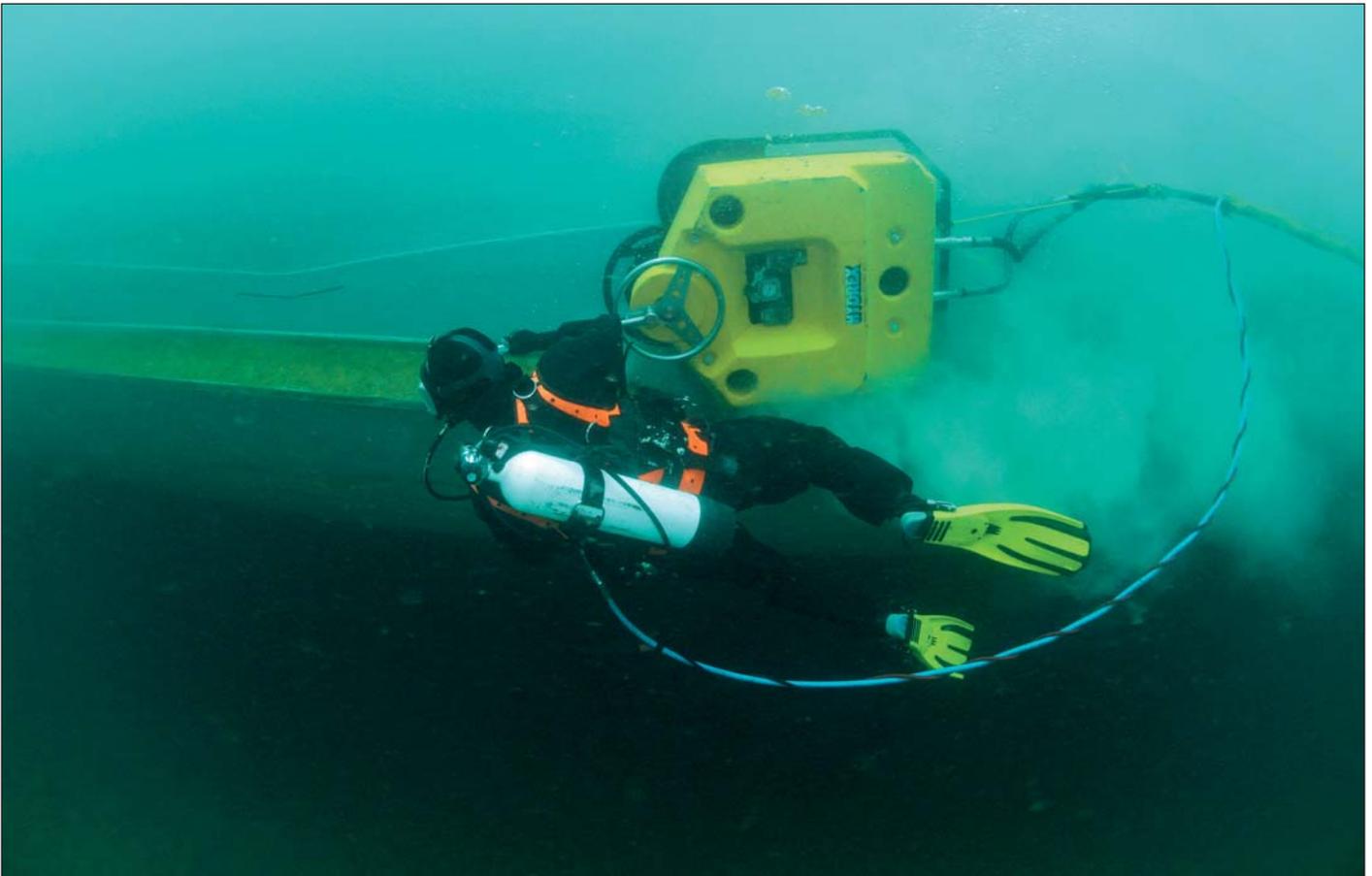
Several of our customers use this method to have their vessels cleaned. Their ships are taken out of the water, cleaned with high pressure tools and put back in the water in a matter of hours. They all said that this approach helped them get through the crisis.

Long lay-up periods have no negative effect

The coating is also suited for ships which have a stationary period because an impermeable and impenetrable barrier is created. This gives the coating its excellent and durable anti-corrosive properties and protects the underwater hull against mechanical damage. Despite the aggressive nature of certain types of fouling, no corrosion or damage to the steel will be present on the underwater hull of the vessel after cleaning. The hard fouling is unable to penetrate or damage the coating.

Environmentally safe

Toxic-free: Ecospeed is 100% non-toxic and there is no negative effect on the water quality or the marine



Underwater cleaning of our coating systems be carried out whenever needed, at any point in their lifespan.

environment during application or maintenance.

The definite biofouling solution: Clean before you go. The underwater cleaning of Ecospeed prevents the spread of invasive species entirely. The cleaning frequency is optimized to minimize fouling. This prevents macrofouling from building up.

Removal of the ban on underwater cleanings: Several major ports have overturned the existing general ban on underwater hull cleaning, specifically making an exception for vessels coated with Ecospeed.

Conclusion

Ecospeed is an entirely different, more cost-effective and environmentally-acceptable approach to hull protection and anti-fouling.



Ecospeed can also be safely cleaned in drydock with high pressure tools.

There is no need to reblast and re-coat the hull; no corrosion, no impact on the environment and, if regular hull cleaning is carried out, fuel savings of up to 50% can be achieved. ■

ECOSPEED[®]
SHIP HULL PERFORMANCE TECHNOLOGY

Looking back at 2018

The past year has been a very successful one for Subsea Industries. A large number of applications was completed for our different coating systems, both Posidonia and SMM were extremely fruitful and just recently we won the Environmental Protection Award at the 10th IBJ Awards.

You can read more about this in the first article in this magazine. In the article below we will be looking back at some of the major Ecospeed project of 2018.

Two newbuild vessels given lifelong protection at shipyards in Turkey

Our specialist hull and rudder coatings (Ecospeed and Ecoshield respectively) were applied to two newbuild projects in Turkey. A third Turkish project is in progress and several others are in the pipeline for 2019.



After application of the second Ecospeed layer on oil tanker.



Anchor handling tug supply vessel after application of Ecospeed.



Application of flat bottom of oil tanker.

A shallow draught anchor handling tug supply (AHTS) vessel was coated at the Atlas Shipyard in Gölcük and an oil tanker was given the same treatment at the Akdeniz Shipyard in Ceyhan.

The owners of the AHTS vessel selected our coatings amidst strong competition because of their proven performance in polar waters. The Ice-Class 1A, 65m tug will carry out

anchor handling and oil recovery duties in the ecologically sensitive Arctic in compliance with the IMO Polar Code requirements. Manuel Hof, Production Executive and NACE Coatings Inspector at Subsea Industries, explained that the Polar Code recommends the application of abrasion resistant, low friction coatings to vessels operating in ice-covered waters.



Part of the tug's unique design are its six rudders that were all coated with Ecoshield.

During the building process (or dry-dockings) there is a lot more going on than just the hull coating, which can easily interfere with the planning of a project. Because our coatings have quick and flexible overcoating times, application can be scheduled around other work taking place. For both the ship-yards in Turkey this was a big benefit as it resulted in minimal interference with their other activities.

Golden Gate ferry coated with Ecospeed in California

The Ecospeed coating system has been applied to Golden Gate Ferry's M.S. *Marin*. This aluminum-hulled 750-passenger capacity Spaulding class ferry is owned and operated by the Golden Gate Bridge, Highway and Transportation District. Golden Gate Ferry chose to apply Ecospeed based on its environmental safety and durability.

Mr. Hof said: "The application marks the first Ecospeed coating to a ferry operating in California. We

have completed the application to the *Marin's* hull and the operator will now evaluate performance."

Application went very smoothly, taking just one day. The first coat was applied in the morning, with the second coat applied in the afternoon, as Bay Ship & Yacht's Senior Project Manager David Elliott explained.

"This being BSY's first application of Ecospeed, our priority was to familiarise ourselves with the coating and then confirm how much product would be required for the project; it was vital to the project's success that the correct quantities



Golden Gate Ferries' Marin was coated with Ecospeed at the end of May. ©Supanee_Hickman / Shutterstock.com



The ferry was docked at the Bay Ship & Yacht yard, just outside San Francisco.

arrived ahead of the scheduled application date.”

Chris Ward, the Technical Manager of BSY’s Paint Department, added: “In the maritime industry, a painter’s job is vessel protection via proper coating application; BSY has no doubt that its application of Eco-speed will serve the *Marin* well for years to come.”

RRS *Sir David Attenborough* launched with Ecospeed protection

The hull of the polar research ship RRS *Sir David Attenborough* was officially launched in July. Commenting on the success of the vessel’s launch into the River Mersey from the Cammell Laird shipyard in Birkenhead, Mr. Hof said: “RRS *Sir David Attenborough* is now afloat with a hull protected by the same Ecospeed coating that has protected its sisters, *Ernest Shackleton* and *James Clark Ross*, for many



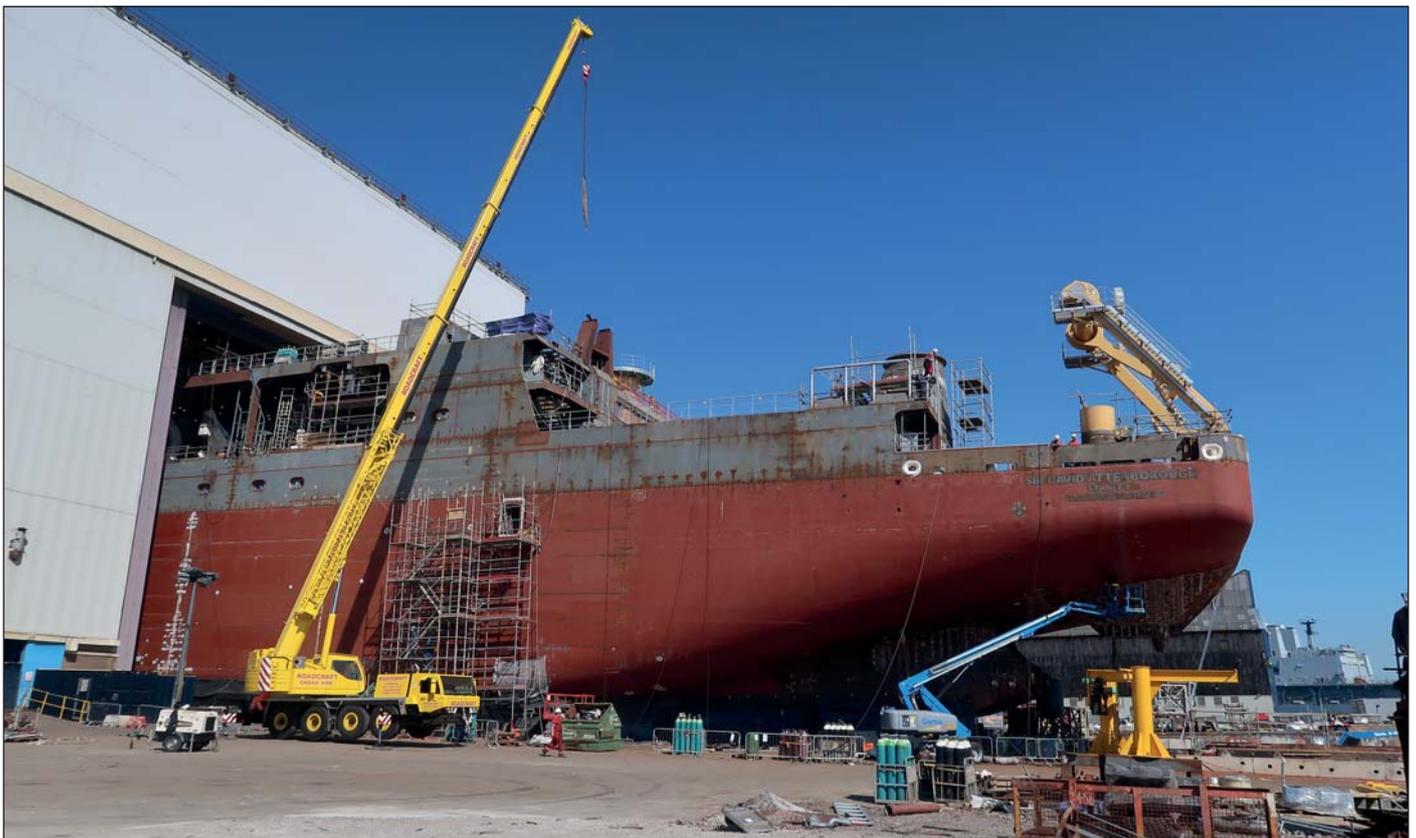
The hull of the polar research ship RRS Sir David Attenborough took to the water in July. Photo credit: Jon Payne (Cammell Laird).

years. It was incredibly exciting to watch the launch of this important vessel.”

When the vessel is delivered to British Antarctic Survey in 2019, it will undertake world-leading environmental research into climate change and ocean protection. As

such, the vessel required an ice-breaker coating, without being harmful to the environment. Eco-speed fulfils that requirement.

Ecospeed is a safe, hard-type coating with zero toxic compounds. It eliminates the potential pollution of polar waters with heavy metals or



The ship is constructed at the Cammell Laird shipyard in Birkenhead.



The thrusters of the RRS Sir David Attenborough were treated with our Ecoshield coating for running gear.



Underwater hull of RRS Sir David Attenborough after application of Ecospeed.

biocides and hull contamination during operations in ice. This is extremely important to the scientific work the vessel will carry out.

The hard coating completely mitigates against the leaching of chemicals into the marine environment.

Subsea Industries' Chairman Boud Van Rompay said: "We are delighted that Cammell Laird and BAS have successfully launched RRS *Sir David Attenborough*. The vessel is a

showcase for an array of sophisticated technologies and systems, of which, I am pleased to say, Ecospeed is one."

The 15,000gt research vessel, scheduled for operational duties later this year, will be one of the most advanced polar research vessels in the world. The 128m long vessel will be capable of 60 days at sea without re-supply, covering a range of 18,898 nautical miles at 13 knots.

Ecospeed application helps DFDS achieve ecological goals

Also in July the underwater hull of the ro-ro vessel *Magnolia Seaways* was coated with Ecospeed in Gdansk, Poland. Our non-toxic and easy washable coating system will keep the hull smooth for the service life of the vessel with minimal repair and no replacement. At the same time the rudder of the ship was treated with our Ecoshield coating which was designed specifically to protect underwater gear against cavitation and corrosion damage.

The 200-meter ro-ro vessel is currently sailing a fixed Brevik-Gothenburg-Immingham route and is owned by DFDS, a company that takes its environmental responsibility very seriously. "DFDS is committed to reducing its energy consumption and impact on the environment by improving its operations and activities on an ongoing basis. Our environmental work is therefore focused on reducing emissions from ships, as well as on developing and implementing new environmental technology for use at sea."¹



In July the underwater hull of the roro vessel Magnolia Seaways was coated with Ecospeed.

Ecospeed ties in perfectly with the ecological ideas of DFDS. Independent research proved that the coating is 100% non-toxic and that there is no negative effect on the water quality or the marine environment at any point of its use. The emission of massive amounts of VOC and zinc anodes associated with conventional coating systems is reduced to almost zero.

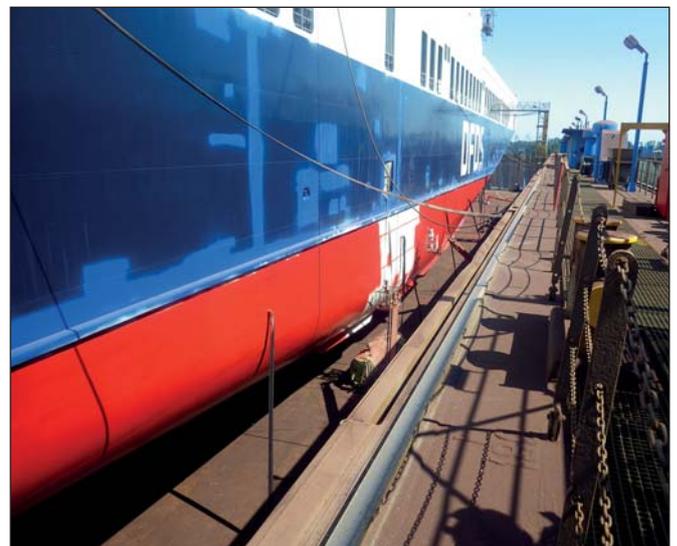
The use of an environmentally safe underwater ship hull coating can help DFDS fulfill their ecological goals. Ecospeed offers a perfect lasting solution for any individual or company that takes its environmental responsibility seriously. ■

1 Source: <https://www.dfdsseaways.co.uk/about-us/environment/reducing-our-impact>, accessed December 17 2018

ECOSPEED®
SHIP HULL PERFORMANCE TECHNOLOGY

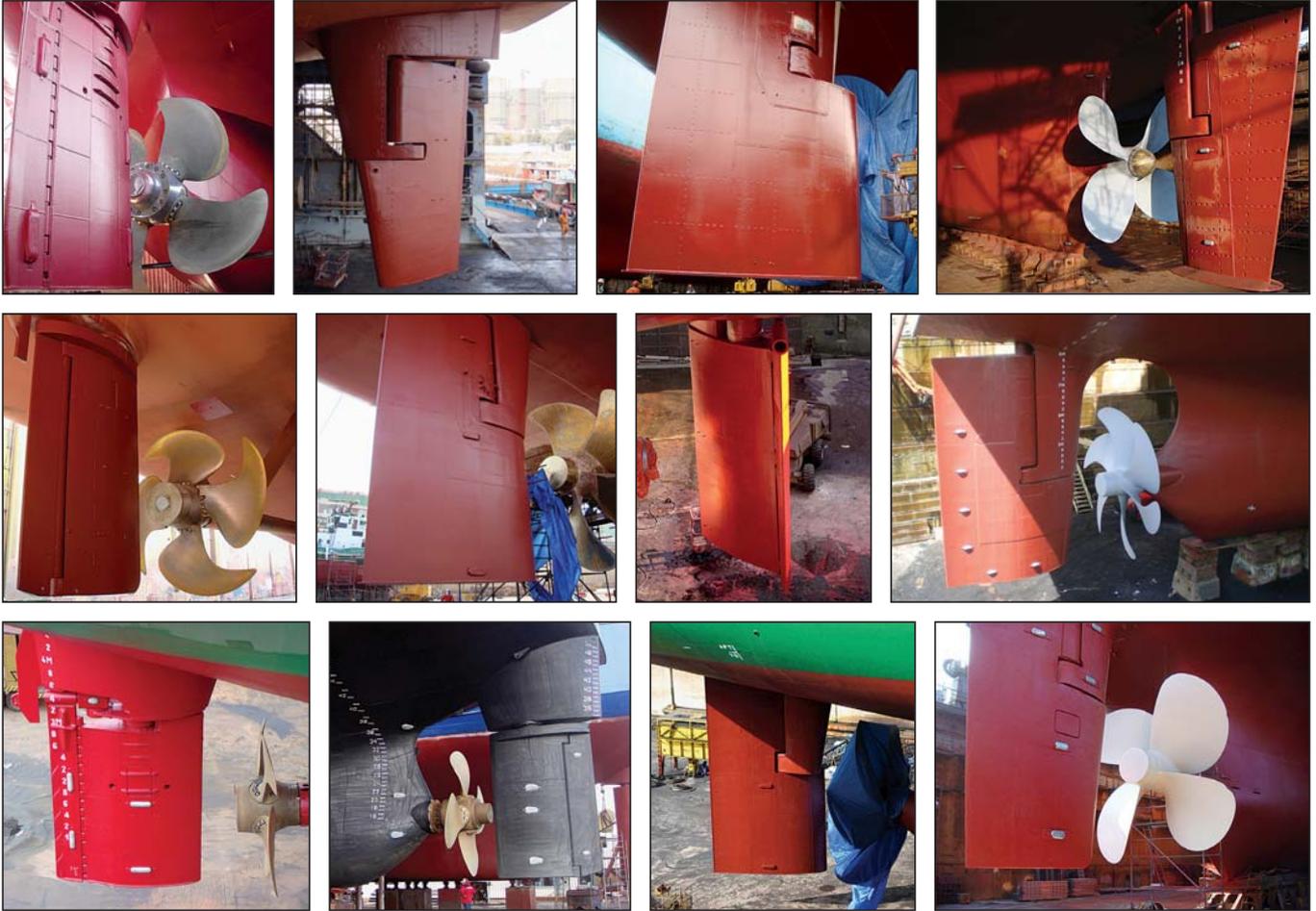


After surface preparation only two Ecospeed layers are required.



The second layer can be coated as fast as three hours after the first.

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.

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ECOSHIELD®
THE DIAMOND STANDARD IN STEEL PROTECTION

SUBSEA INDUSTRIES



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.

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