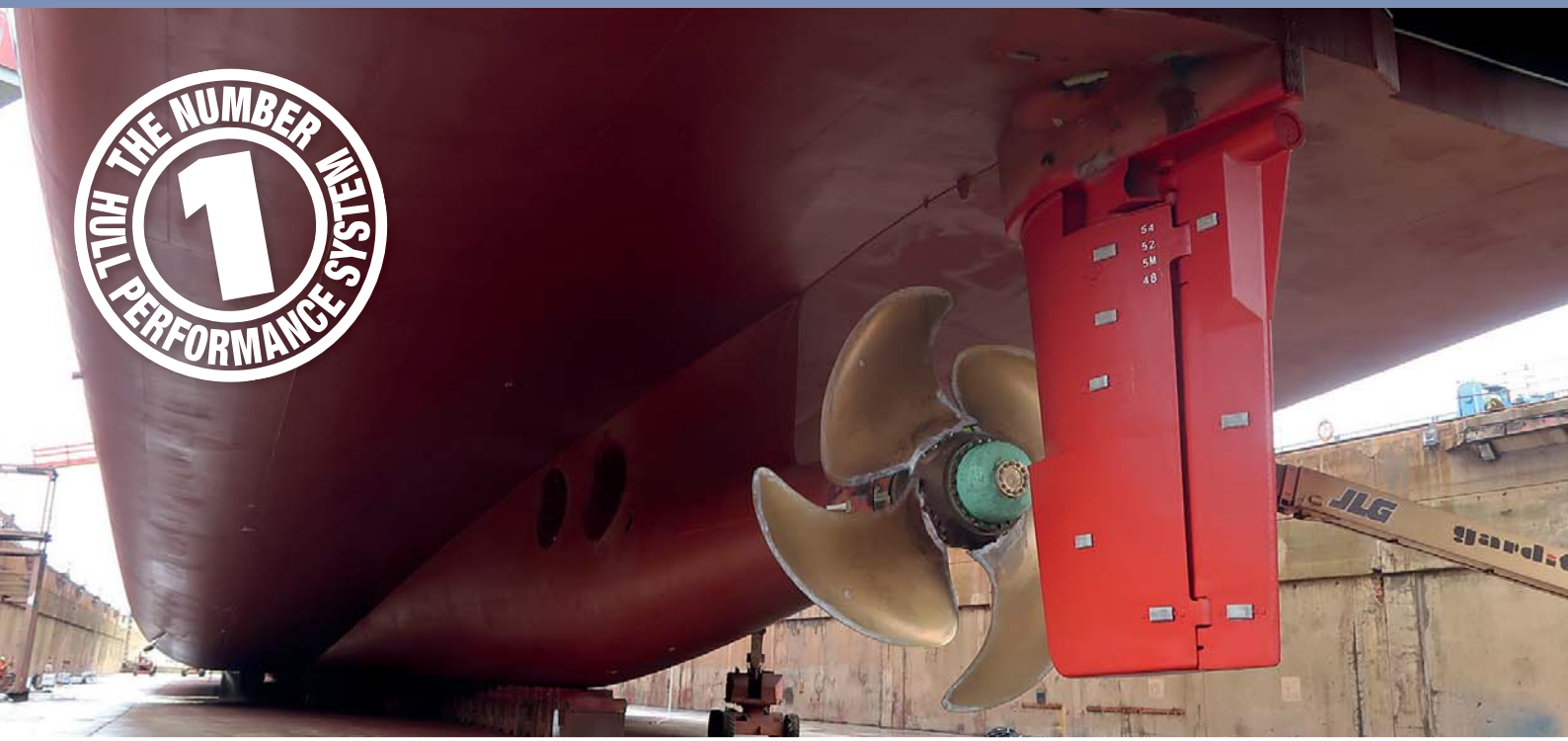
SUBSEA

PROTECTION AND PERFORMANCE

Magazine



Corrosion damage repair made easy

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

Ecofix is used to fill and build up a corroded and pitted steel surface to its original form prior to recoating with Ecoshield. It 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 basics, the Ecoshield 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 Ecospeed/ Ecoshield family, it is fully compatible with the coating. ■

ECOFIX®
CORROSION REPAIR

Subsea Industries NV
Phone: + 32 3 213 5318
Fax: + 32 3 213 5321
info@subind.net
www.subind.net

Editorial

Welcome to the new issue of Subsea Magazine. In it we once again cover different aspects of the range of products Subsea Industries has to offer.

In the first article of this magazine you will find examples of recent Ecoshield applications. This award winning coating system was designed to offer lasting protection against cavitation and corrosion damage for all running gear.

The second article talks about how our Ecospeed coating system helps cruise ship owners avoid the problems encountered with their traditional antifouling and foul-release coatings. While the article is focused on the cruise industry, these issues exist in all sectors of the marine industry.

We hope you enjoy reading this magazine. Do not hesitate to contact us if you want to know more about our coating systems' benefits

Subsea Industries NV
Boud Van Rompay
Founder

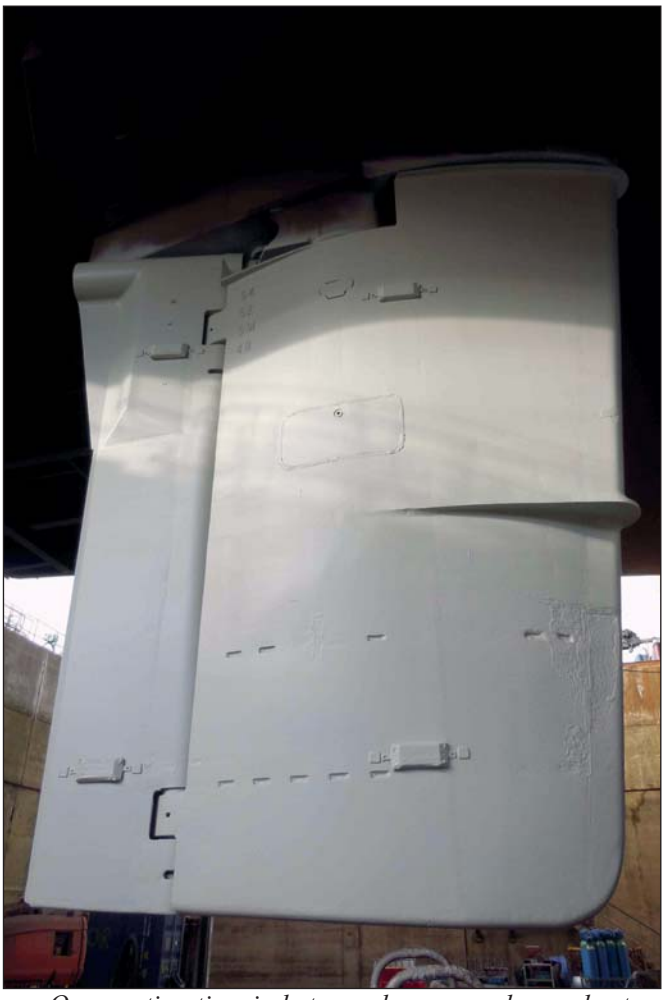
Lasting protection for running gear

A constantly growing number of shipowners have Ecoshield applied on the rudders and other running gear of their fleet. Over the last few months alone 30 vessels were given lasting protection against corrosion and cavitation damage. The applications were carried out in China, Singapore, Japan and Denmark on different types of ships. Among the vessels treated were container vessels, car carriers and ferries.

The vessels treated belonged to several different owners. Some of them were new customers, some returning ones. They had experi-

Surface preparation prior to Ecoshield application.

Application of first of two identical Ecoshield layers.



Overcoating time in between layers can be as short as three hours.

Ecoshield application can easily be fitted into a yard's schedule.

No repaint will be needed for the rest of the vessel's lifetime.

enced firsthand the devastating effects of cavitation on rudders and other running gear coated with a traditional coating system. For this reason they decided to use Ecoshield to ensure lasting protection against corrosion and erosion damage for the rudders, nozzle rings and tunnel thrusters of their vessels.

Suited for newbuilds and existing vessels

Protection of the running gear of your ships is best begun at the newbuild phase. When a ship comes into drydock, maintenance of its stern area, especially cavitation and corrosion damage repair, can take a long time. There are strict procedures concerning blasting, painting, welding and propeller and stern tube seal work. Painting is then assigned to the end of the schedule. As a consequence it may be rushed or not done at all or else prolong the stay in drydock.

The newbuild phase is the perfect time to apply Ecoshield. However, the coating can also be used to protect vessels that have been in service

Thruster tunnels and other running gear can also be protected with Ecoshield.

Ecoshield gives lasting protection against corrosion and cavitation damage.

Ecoshield offers the best possible protection for a rudder's entire lifespan.

No cavitation damage will occur on rudders or running gear coated with Ecoshield.

for some time and are already facing cavitation and corrosion damage. Such was the case with some of the rudders coated over the last months. Ecoshield's flexibility makes it easy to adapt the application schedule to the rest of the activities at the shipyard or drydock in a way which does not interfere with them. Overcoating time can be as short as three hours, which means that for smaller surfaces such as rudders or bow thrusters the two coats required are applied in one single day.

Groundbreaking protection

Besides offering rudder protection Ecoshield is also suitable for thrusters, azimuth thrusters, azipods, thruster nozzles, thruster tunnels and other underwater ship gear which needs special protection from corrosion. The extra strength coating protects these areas for the service life of the ship. There is no need for recoating or major repair. For this reason the thruster tunnels of the vehicle carriers and the passenger ferries were also coated together with their rudders, as were the nozzle rings of several container vessels.

Conclusion

If one takes into account the costs of the temporary underwater repairs and the regular inspections required by a condition of class or the costs for rudder repairs in drydock, it becomes clear that the investment in a coating system that offers extra protection from day one is very easily won back. For this reason more and more owners select Ecoshield for their existing fleet or have it included in the rudder specs of their newbuild vessels. Some have over 80 rudders in their fleet with 100% result.

You can give the rudders and running gear of your vessels the same lifelong protection. Contact one of our offices for more information. ■

ECOSHIELD®
THE DIAMOND STANDARD IN STEEL PROTECTION

ECOLOCK® ultra long-lasting protection for offshore hulls

Ecolock is designed to protect offshore vessels for decades without the need for drydocking. Increasingly, offshore units such as FPSOs, FSOs, FLRSUs and others used for offshore oil and gas exploration, drilling, storage and transport need to stay out of drydock for 15, 25 even 40 years.

The challenge has been to protect the underwater hull from corrosion and to provide a cleanable surface so that the biofouling that accumulates can be removed successfully and safely for UWILD and to reduce weight. Ecolock is the answer to that challenge.

Ecolock is an extremely tough and durable coating designed to remain in excellent condition for 15 - 25 years without drydocking, repair or replacement. Ecolock can be cleaned underwater as often as needed to meet the UWILD and weight requirements of FPSOs, drill ships and other offshore vessels. Ecolock is the result of continual R&D on offshore hull coatings since the 1990s.

ECOLOCK®

LIFETIME CORROSION PROTECTION FOR OFFSHORE UNITS

Subsea Industries NV
Phone: + 32 3 213 5318
Fax: + 32 3 213 5321
info@subind.net
www.subind.net

Ecospeed for cruise ships

Superintendents and others who have to deal with the underwater hull coating on cruise ships have complained of a number of issues with both biocidal antifouling coatings and foul-release coatings.

The issues come down to:

1. Toxic hulls – not environmentally sustainable, subject to criticism from ports, public and clients.

2. Considerable marine fouling which increases fuel consumption and makes the ship look unattractive.

3. Coatings damaged and rapidly degrading, becoming rougher, increasing fuel consumption and needing much repair or replacement in drydock.

4. Extended time needed in drydock to repair or replace paint.

5. In-water cleaning needed but becoming increasingly difficult to carry out, fewer ports permitting it due to the toxic nature of the coatings and to the threat of spreading invasive species.

6. Corrosion of hulls and underwater gear on high value ships.

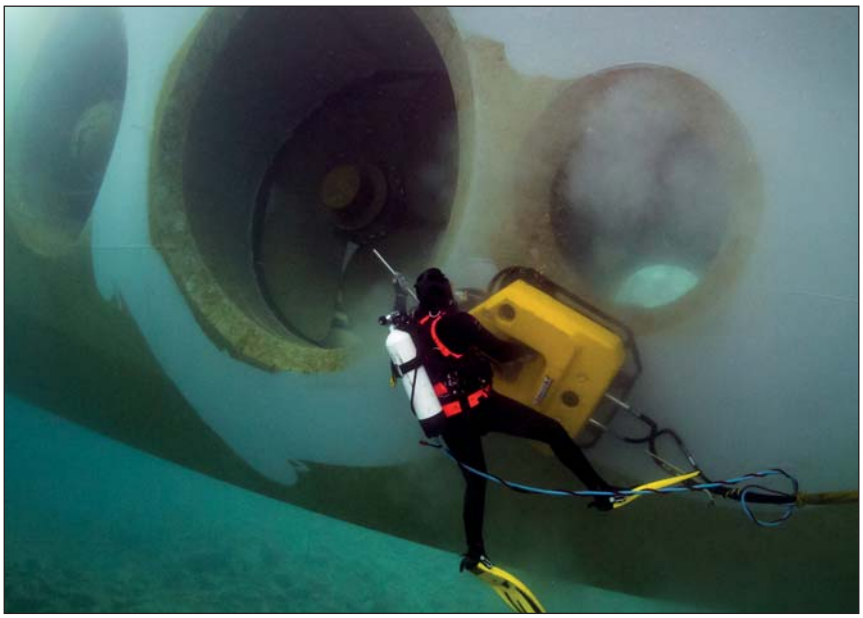
These factors all add up to high costs, an increase in maintenance and an unwelcome impact on the environment and the cruise line's PR. And many of these issues are actually getting worse, not better.

In comparison, cruise line customers who have switched to Ecospeed are experiencing *none of these problems*.

Cruise vessel's toxic SPC coating showing paint degradation.

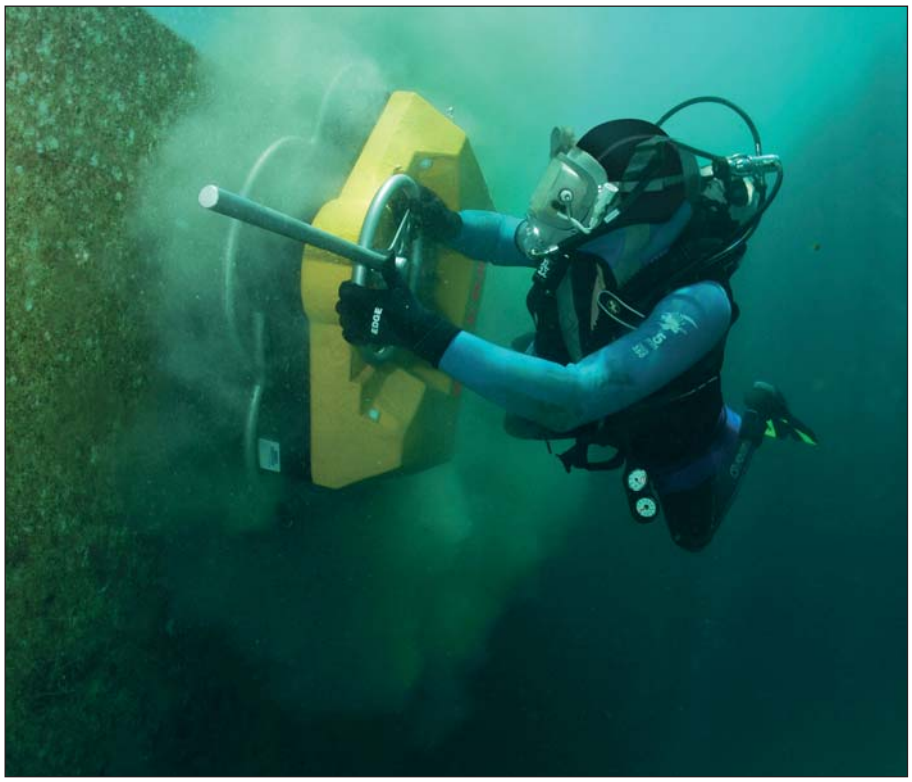
Ecospeed is non-toxic. It is applied once and can be cleaned as often as needed without restrictions and without damage to the coating. In fact it becomes smoother with cleaning thus producing major fuel savings.

Drydock time is significantly reduced rather than increased. In fact one Ecospeed customer recently specifically noted that he was able to get his ships out of drydock several days sooner than usual due to the Ecospeed coating, saving millions. The coating at most requires minor touch-ups during routine drydocking and this can be accomplished very



Routine in-water cleaning keeps this cruise ship's Ecospeed coated hull clean. In fact Ecospeed gets a little smoother with each cleaning.

This cruise ship came out of the water just like this. The Ecospeed coating is 9 years old. It has had absolutely minimal touch-ups, no repair, no replacement. It has undergone regular routine in-water cleaning.



rapidly. Any repairs blend in perfectly and do not make the hull rough.

The coating is ultra strong and resilient and is probably the best possible protection against corrosion available today. Applied to rudders and underwater gear, Ecospeed's tougher variant Ecoshield even puts an end to rudder cavitation damage.

If you are experiencing similar problems with your cruise ships' hull coatings, please let us know by contacting one of our offices. We can arrange a time to talk or meet to give you more information on Ecospeed and how it will put an end to these problems. ■

ECOSPEED®
SHIP HULL PERFORMANCE TECHNOLOGY

Because Ecospeed is so easy to clean, the waterline of cruise vessels will always look pristine. We produce the best looking waterlines.

UV resistant corrosion protection

The latest member in our range of coating systems is ultraviolet (UV) resistant and preserves its color while at the same time offering the corrosion and abrasion protection our coatings are known for.

Regular coatings will quickly lose their original color when exposed to the ultraviolet radiation present in sunlight. This is problematic when colorfastness is required, as is the case in for example offshore wind farms.

Ecolast is highly resistant against salt, ultraviolet radiation, waves or even ice. Mechanical damage to the coated surface is minimized. This is especially important for (semi-)submerged structures like wind turbines that are located in splash or tidal zones.

Ecolast is also unaffected by corrosion. As a result no repaint is required once the coating has been applied.

Application of Ecolast is done in two homogenous layers, with no need for primer or any other extra layer. This makes the application very fast and easy to adapt to the schedule of the builder.

ECOLAST®
LONG TERM UV RESISTANT

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.

www.subind.net

Subsea Industries NV
Phone: + 32 3 213 5318
Fax: + 32 3 213 5321
info@subind.net