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Subsea Industries is looking for representative agents



To support our continuous growth, we are expanding our worldwide network of Subsea Industries agents. This allows us to reach a much bigger public directly than would otherwise be possible.

Subsea Industries NV was founded in 1983 to take care of the design, development and marketing of an evolving line of underwater hull

and propeller cleaning equipment as well as a line of hard hull coating systems.

The purpose of the Ecospeed range of coatings and cleaning technology is to offer a long-lasting, non-toxic protection for all ships with a system that keeps a hull ultra-smooth and free of fouling for the service life of the vessel with minimal repair and no replacement. Instead of using chemi-

cals to kill and repel marine fouling organisms, Ecospeed uses a hard, impermeable, impenetrable coating along with manual removal of fouling at an early stage.

Contact us if you are interested in joining our network and help us build a strong relationship with our prospects and customers. We look forward to hearing from you.

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INDUSTRIES**

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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 in this magazine we write about some of the recent Ecoshield applications on the running gear of a wide range of vessels. Throughout the years I have seen firsthand the damage cavitation erosion causes to ships. It is a costly problem to repair. Unless, of course, you have coated these underwater components with a system capable of significantly reducing the phenomenon. Our Ecoshield coating is one such solution and one that is proven to work. The coating was developed for areas that are subject to cavitation and gives permanent protection against cavitation damage for all running gear.

Further in this magazine you can find an announcement of our new agent for the Netherlands. They will become part of our growing world-



wide network of agents that allow us to reach a much bigger public directly than would otherwise be possible. Working closely together with our offices, they help us build a strong relationship with those who will benefit the most from our products: Shipowners, ship managers and everyone who has vessels under their care that need lifelong protection.

The shipping world is undergoing immense change, especially with the introduction of mandatory regulations designed to reduce shipping's impact on the marine environment. Such regulations place a financial burden on the shipowner, resulting in ever-tighter profit margins. But what if you could meet your current and future environmental targets, while reducing fuel consumption and drydocking costs by half? Ecospeed will last the lifetime of the vessel, without the need for regular re-blasts and re-coats, reducing the time your vessels spend in drydock.

We hope you enjoy reading this magazine. Do not hesitate to contact us if you have a question or want to know more about the benefits our coating systems can offer.



Our coatings can be used to protect the underwater part of any vessel afloat today.

Subsea Industries NV
Boud Van Rompay
Founder

One complete solution to protect rudders and running gear

A great deal of effort goes into the design and manufacture of rudders and other running gear because it is such an important part of a vessel. Without the proper protection against cavitation and the resulting erosion and corrosion damage, the financial consequences can be substantial for the owner.

Over the last months the rudders, bow thruster tunnels and Kort nozzles of several types of vessels were given an Ecoshield protective coating at yards in China, Canada and Germany. A number of container vessels, tankers, general cargo ships, navy vessels and a research ship were treated. The applications will protect their running against cavitation and corrosion damage for the remainder of their service lives.

Ecoshield has been developed especially for the protection of areas that are most often subject to cavitation. It has the same advantages as the regular Ecospeed coating but it is even more resistant to cavitation due to its increased strength. It is ideally used over smaller areas that need extra protection. Ecoshield provides the running gear with an impenetrable protective layer while its flexibility enables absorption of the forces that are produced by cavitation, thereby preventing the damage normally caused by this phenomenon.

Prevention of damage can start in the newbuild phase

As a consequence of cavitation and corrosion damage on their rudders



Rudder after surface preparation, ready for Ecoshield application.

many ships are given a condition of class. Such a condition of class can have a great impact on the vessel's sailing schedule if for instance it is not allowed to enter certain ports or needs to go to drydock before a certain period of time has passed.

Understandably the owner then wants to try to hold off going to drydock as long as possible and ideally until the five-year interval has

passed. Temporary repairs are carried out after which the class requires that a new inspection is performed every three months.

When such a vessel eventually comes into drydock, maintenance work on the vessel's stern area, especially cavitation damage repair, can take a long time. Most of these repairs cannot be performed concurrently. This is the result of the close



Application of first layer.

proximity of the rudder, the propeller and the stern area, along with the strict procedures concerning blasting, painting and welding work. Painting is therefore usually assigned to the end of the schedule and

as a consequence may not get done at all or else prolongs the stay in drydock. Taking into account the tight drydock schedule of most vessels this is often very problematic.

With an Ecoshield application one can avoid these problems because no repaint of the running gear will be needed during drydocking. Ecoshield will remain intact for the lifetime of the vessel and is guaranteed



Ecoshield is applied in two identical layers.



Application of second layer.



No repaint will be needed during future dockings.



Ecoshield protects running gear against corrosion and cavitation damage.

for ten years. At the most, touch-ups amounting to less than 1% of the surface area will be required. Planning the maintenance of the vessel's stern area therefore becomes much easier.

An existing ship can also be protected with Ecoshield. If for instance a rudder has already suffered corrosion damage, the coating can prevent any further damage from occurring. In such case Ecoshield can be used in

combination with another product in the Subsea Industries family: Ecofix.

Ecofix is a superior, tested and proven filler that restores the steel to its original shape with a smooth sur-



Corroded thruster tunnel.



After Ecofix application.



All damaged running gear can be repaired with Ecofix and protected with Ecoshield.



Kort nozzle after application of first layer.



All running gear can be protected with Ecoshield.

face prior to recoating. Because it uses the same basic resin, Ecoshield can be applied just one hour after the filler.

Ecoshield's flexibility makes it easy to adapt the application schedule to the shipyard or drydock instead of the other way round. The minimum overcoating time is three hours, which means that for smaller surfaces such as rudders or bow thrusters the two required coats can usually be applied in one single day. 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.

Conclusion

If one takes into account the costs of the temporary underwater repairs and the regular inspections required by a condition of class until the next drydocking, it becomes clear that the investment in a coating system that offers extra protection from day one is easily won back. For this reason more and more owners have Ecoshield applied on a large part of their fleet or have it put in the specs of their newbuild vessels. ■

**Contact us for more
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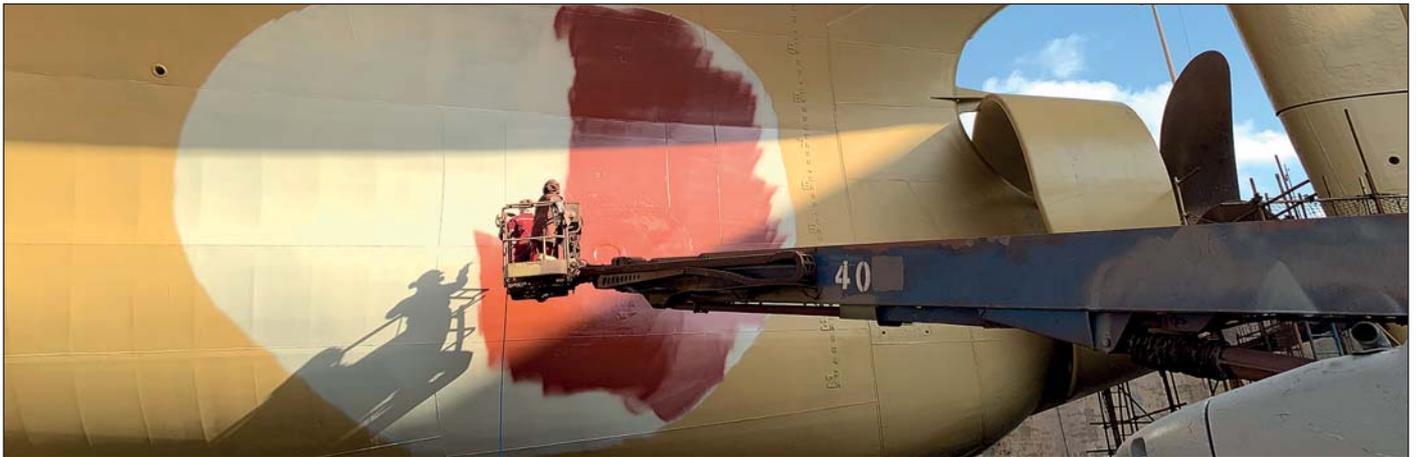
Lasting scrubber protection

Ecospeed fits in seamlessly with the environmental idea behind scrubber systems. It is a lasting, chemically resistant coat-

ing that will withstand the hazardous pollutants and will prevent corrosion damage and the resulting consequences. Ecospeed will

protects the exterior outlets as well as the interiors of scrubbers for the lifetime of the vessel.

Outlets



Overboard pipes



Holding tanks



The actual scrubber



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New agent for the Netherlands

Subsea Industries has a new Agent for The Netherlands: Propulsion & Maritime Services. They will represent and support products throughout their country.

A full list of our worldwide network of agents can be found on our website: www.subind.net/contact

Subsea Industries is a pioneer in the development of hard hull coating systems and hull and propeller cleaning systems. In 2002 a long-

lasting, non-toxic method of protecting ship hulls was introduced into the market: Ecospeed. In 2013, after more than 10 years of strenuous testing, Ecoshield was launched for permanent protection against cavitation damage for rudders. In 2014 Ecolock was introduced. This coating system is designed to protect offshore vessels for decades without the need for drydocking. The latest members of the family are Ecofix, a superior, tested and proven filler and Ecolast, a UV

resistant coating offering the full corrosion and abrasion protection Subsea Industries coatings are known for.

For more information, please contact your local agent directly or drop us a line:

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Propulsion & Maritime Services

The Netherlands

Propulsion & Maritime Services

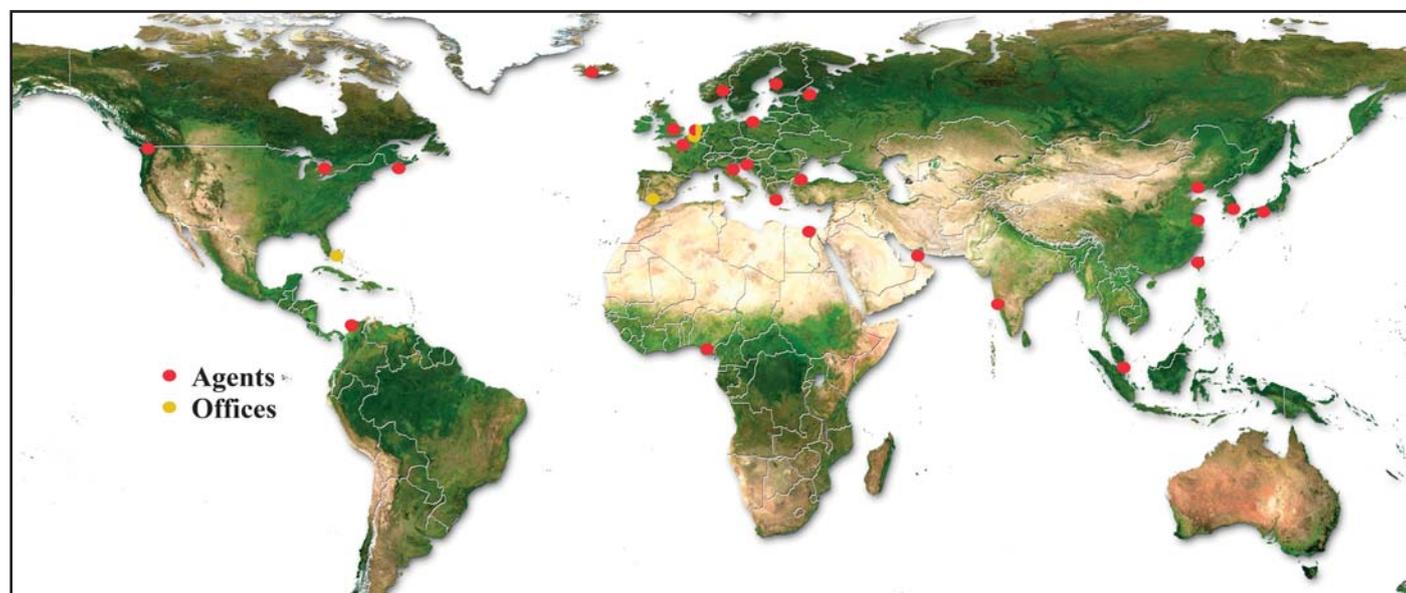
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Ecolock ultra long-lasting protection for offshore hulls

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



Floating Storage and Regasification Unit (FSRU) during its undocking.

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 is an extremely tough and durable coating designed to remain in excellent condition for 25 years without drydocking, repair or replacement.

Corrosion damage very repair made ✓ 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.

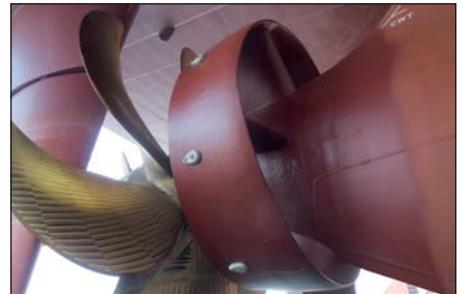
This is where Ecofix comes in. It is a superior, tested and proven filler. Because it uses the same basic resin as Ecoshield, the coating can be applied just one hour after the filler. The bonding and hardness are extraordinary. This is the effective alternative to very expensive fillers. And because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

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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.

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