SUBSEA
PROTECTION AND PERFORMANCE

NEWS
LETTER

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

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Customers return for more Ecoshield applications

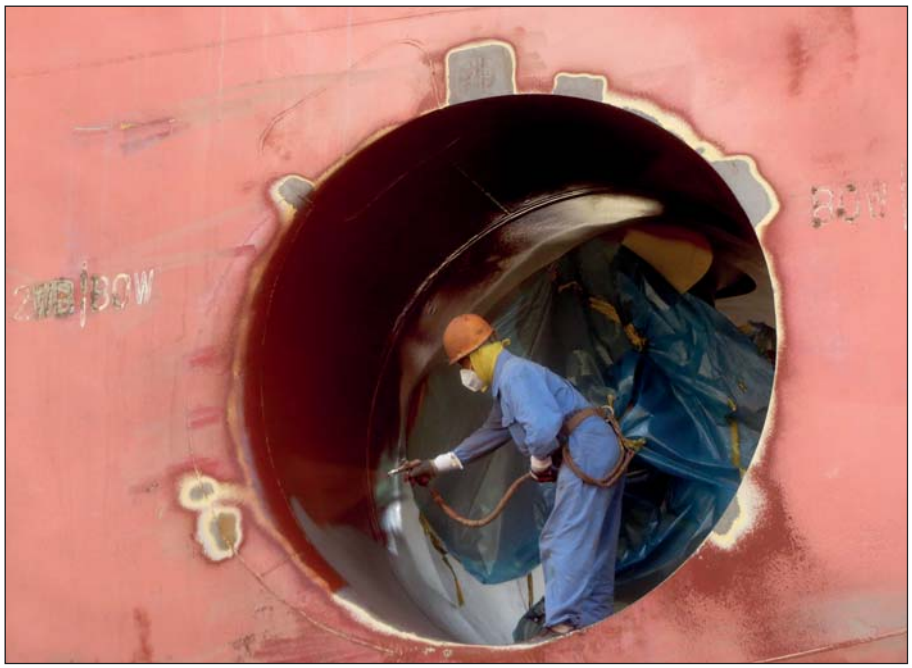
Over the last months the rudders and nozzles of several types of vessels were given an Ecoshield protective coating at yards in China, U.S.A. and Germany. A number of container vessels, vehicle carriers, a tug and an oceanographic vessel were treated. The applications will protect the rudders against cavitation and corrosion damage for the remainder of the vessels' service lives.

Cavitation damage on rudder prior to Ecoshield application.

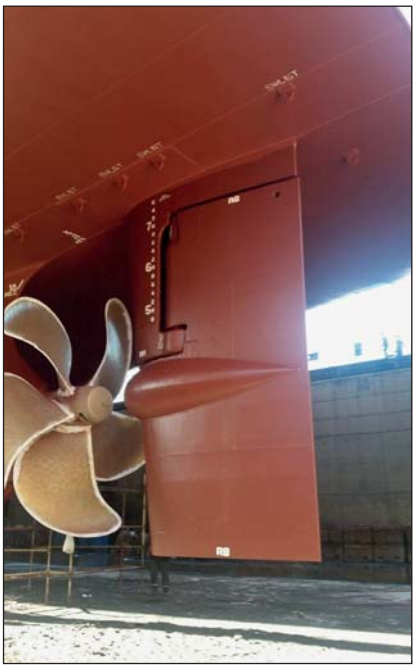
All the vessel belonged to different owners. Some of the owners are returning customers, some are new ones, but all of them experienced the same problem: severe cavitation damage on the rudders of their vessels coated with conventional coatings. The returning customers had seen firsthand that Ecoshield solved the problem on their other rudders and wanted the same protection for the rest of their fleet. The new ones saw the excellent result obtained by other owners and chose Ecoshield to prevent corrosion and cavitation damage from reoccurring. Ecoshield has been tested on rudders since 2002 with extraordinary results. Ships that were experiencing heavy cavitation damage to their rudders have seen no further cavita-

Ecoshield is applied in only two layers.

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



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



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

Ecoshield will protect rudders from cavitation and corrosion damage.

tion damage erosion. Some of them have been sailing for as long as 10 years after application with no sign that the coating will need replacement.

Besides offering rudder protection, Ecoshield is also suitable for thrusters, azimuth thrusters, azipods, thruster nozzles, kort 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 nozzles and thruster tunnels of several of the vessels were also coated with Ecoshield.

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 very easily won back. For this reason more and more owners have Ecoshield applied on the rudders and other running gear of a large part of their fleet or have it included in the rudder specs of their newbuild vessels. These owners invest in the right coating system for protection because they know the savings that will result. ■

ECOSHIELD®
THE DIAMOND STANDARD IN STEEL PROTECTION

The benefits of a fast and easy Ecospeed application

Our coating systems offer many benefits to shipowners, ship managers and operators. In this article we take a look at how applying Ecospeed (or any other Subsea Industries coating) to a vessel can save much worry, time and hassle for superintendents and shipyards during drydockings, as well as save expenses for the owner.

Like all our products, Ecospeed is an extremely hard coating system with optimized hydrodynamics that can easily be maintained in service. This has a huge potential for reducing total cost of ownership of the vessel. When ships come out of the water after lengthy periods, there is no delamination of the coating from the hull, there are no paint blisters that would be indicative of anti-corrosive failure and the overall hull is still smooth. There are also the environmentally friendly aspects of the product. Studies done in the EU, by the Netherlands in particular, have determined that in-water cleaning of Ecospeed produces no materials that are toxic to the marine environment.

High quality application – the secret of long term durability

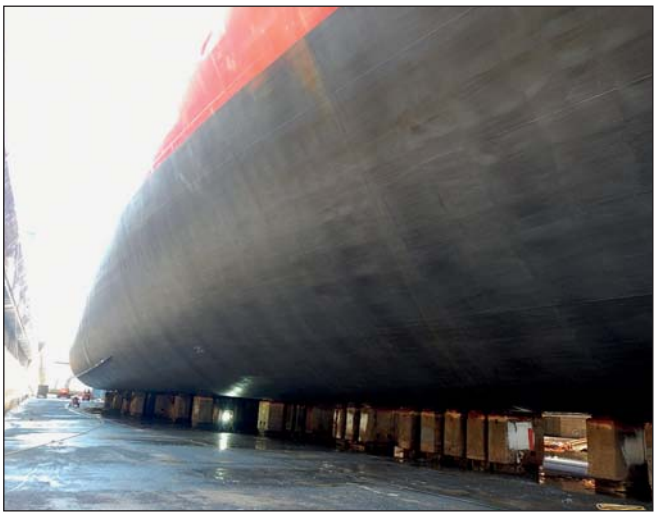
The effect of the degradation of a regular paint system and the build up of paint layers on the fuel efficiency of the ship is largely underestimated. There are very substantial benefits in stripping away all the old paint; immediate fuel savings of up to 20-30% are very realistic numbers.

The second (final) coat can be applied within a couple of hours or after a few weeks or even months.

When Ecospeed is applied this build-up of paint layers is ended forever. Once the hull coating has been applied, you'll never have to reblast again, throughout the entire service life of the ship.

An Ecospeed coating inspector is present and available for the painters on every job.

Ecospeed is applied in only two layers, allowing a very swift and flexible application schedule.



General cargo vessel five years after Ecospeed application. No repaint required.

Surface preparation is the foundation of a coating system. As soon as you start tampering with the quality of the surface preparation, you will tamper with the total quality and as a consequence service life of the coating. For this reason at least one Ecospeed coating inspector is present and available for the painters on every job. This is to check the conditions during the application process, but also to work closely with them to help ensure a very easy and smooth application. Because the inspectors are closely involved with the application, they know exactly what has happened during the coating process. This allows them to approve the 10 year warranty that comes with an Ecospeed application.

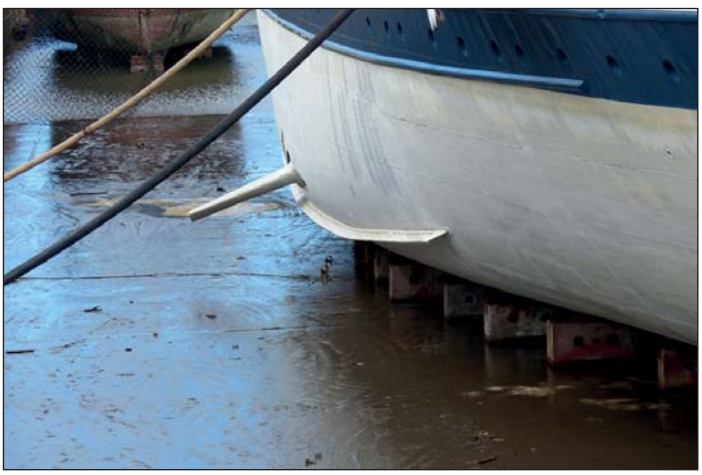
We work with our own team of highly certified and qualified coating inspectors. These inspectors have been working with the company for many years. They are not only familiar with all our coating systems, but with a wide variety of other coatings. They are very important in the cooperation with the shipyard and they make sure that the product is applied according to the required standards. This guarantees that the results will be there for the shipowner for the next ten years and beyond.

Flexible and easy to learn application process

The high standards that are demanded for an Ecospeed application do not mean that learning to work with the coating is a difficult process or that the application itself is hard to schedule or carry out.

Applying Ecospeed is quite straightforward and in general it paints like any other paint. When the specifications are followed the application goes very smoothly.

The Ecospeed coating also offers a tremendous flexibility to the shipyard. The minimum overcoating time for all our coating systems is three hours. This means that for smaller surfaces such as rudders, nozzles or bow thrusters, the two coats of Ecoshield can often be applied in one single day.



Ecospeed still intact eight years after application on cruise vessel.

During drydockings there is a lot more going on than just the hull coating, which can easily interfere with the planning of your project. Because Ecospeed has quick and flexible overcoating times, application can be scheduled around other work taking place. This results in minimal interference with other activities.

Ecospeed only requires two layers of 500 µm each. This is a major advantage compared with other hull coatings. A classic antifouling coating systems can easily have five or more coating layers that need to be applied and some of the newer silicone based hull coatings also consist of four to five layers of coating. Compared to this a two coat application is quicker, cheaper and more flexible.

The coating schedule can be adapted to that of the yard and it does not have to be the other way around. A traditional paint application schedule is defined by surface preparation and by the weather conditions, which are difficult to predict. The application of Ecospeed is easier to adapt to the application windows that become available. You can apply the coating quite rapidly on a prepared surface and the possible overcoat time ranges from three hours to very extended periods of time. Depending on whatever suits the owner's or the shipyard's schedule the second coat can be applied within a couple of hours or after a few weeks or even months.

Stress-free planning of drydockings

The durability of Ecospeed makes the planning of future drydockings far easier for the shipowner and the shipyard. Shipowners will not have to do any repainting beyond minor touch-ups. These can easily be done during a short drydock visit, which is in contrast to the full renewal of paint layers that is needed with other paint systems.

Ecospeed can be cleaned underwater or with high pressure tools in drydock without damaging the coating.

The amount of time many ships spend in drydock is directly related to (re)painting the underwater hull. When this can be taken out of the equation for the choice of location and season for drydocking, then the story becomes a lot easier for superintendents, for the shipyards, for everybody involved.

Simple and environmentally safe fouling removal

The standard procedure for shipyards when a ship enters drydock is a general wash down of the ship hull to clear away any fouling and residues, especially salt residues that may adhere to the coating system. With Ecospeed the coating is always in a brand new, excellent condition after the high pressure washing. The surface texture is very smooth. The high pressure washing reveals without exception that Ecospeed does not need any additional paint layers.

There is also a very big difference between cleaning Ecospeed and other paints. When washing an antifouling paint in drydock, everything on the bottom of the drydock is discolored with dirty red water filled with toxins and the antifouling paint spreads everywhere on the bottom of the drydock. With Ecospeed none of the paint 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.

Summary

We hope that this article has helped communicate the practical aspects of applying Ecospeed, the differences between Ecospeed and other underwater hull coatings and the low cost-to-savings ratio that can be obtained by using Ecospeed to protect the underwater hull of any vessel afloat today. ■

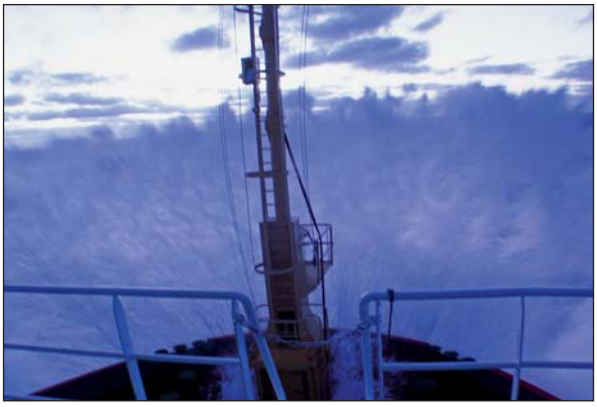
ECOSPEED®
SHIP HULL PERFORMANCE TECHNOLOGY

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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