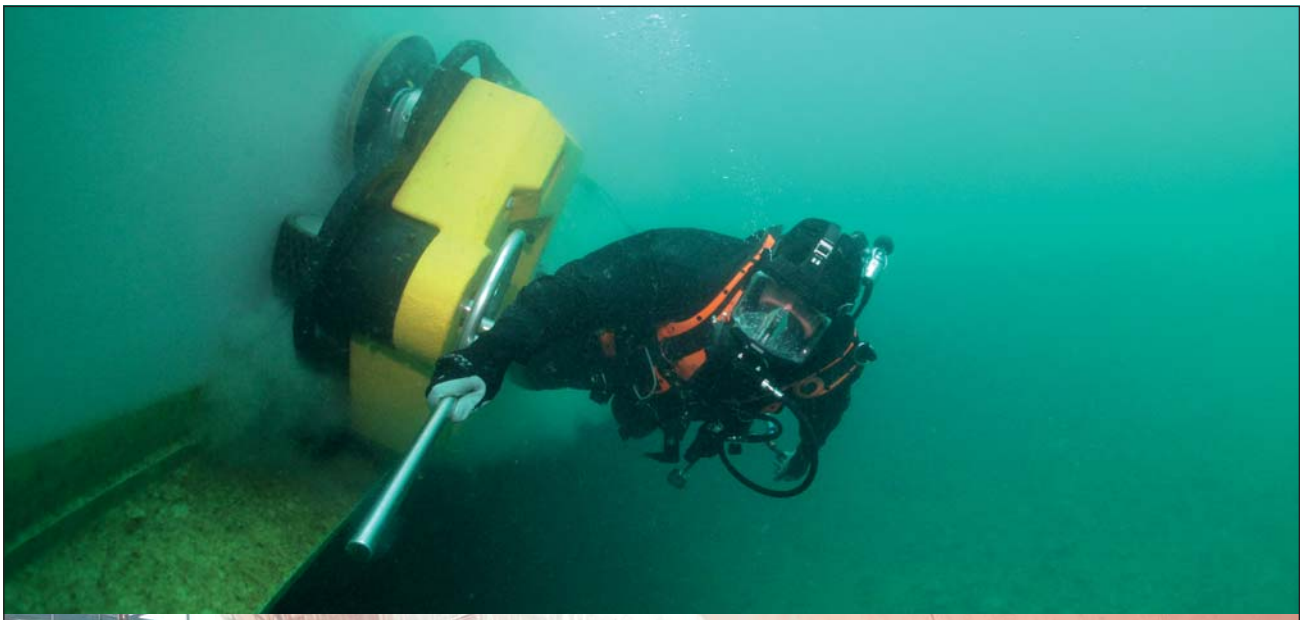
SUBSEA

PROTECTION AND PERFORMANCE

Magazine

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 designed to be washed without being damaged. This enables fast and efficient fouling control throughout a ship's entire service life, either by fast and easy underwater maintenance or high-pressure cleaning in drydock.

ECOSPEED®

SHIP HULL PERFORMANCE TECHNOLOGY

Editorial

Welcome to the first expanded monthly editorial. In it I will be looking at some of the many problems the shipping industry is faced with and how we can solve these problems with our coating systems. We will start this series with a look at how ice-going vessels can benefit from using Ecospeed.

We have been coating ice-going ships for the last 15 years. The technical, economic and ecological results we have witnessed are nothing less than spectacular.

Technical

The first thing you look for in an ice-going coating is a resistance to the ice. The reason why Ecospeed is such a success in ice is because of the adhesion to the steel. In itself the coating is not flexible, but due to its superior adhesion the coating flexes with the steel. There is no delamination and no detachment from the substrate.

Economical

Ecospeed ships do not have to be recoated. Ice-breaking (and other) ships save an enormous time in drydock. Instead of twelve days you only have to spend four or five days in dock because only small touch-ups are required. These are very easy to do, even in bad weather and any repair done to an Ecospeed coating will have the same qualities and strength as the original layers. This is even the case if they have been applied 10 or 15 years before.

A combination of the corrugation of the coating and the absence of marine growth in ice results in a proven reduction of consumption. Depending on the size of the ship, the engines used and other specifications these fuel savings can go from 10%, 20% or even 30%.

The smoothness of the coating also provides for easier breaking of the ice. The ship slices through the ice because hull friction is substantially reduced.

We have been recognized as an abrasion resistant ice coating by Lloyd's Register. Using Ecospeed allows the plate thickness to be reduced by 1 mm. Ships can be build with less material and will be less expensive to build and lighter to use.

Ecological

With Ecospeed on the underwater hull there is no loss of coating. There is no disbondment, no detachment and no delamination caused by ice impact. Our coating systems leave no paint behind. There is no spreading of anti-fouling toxic particles and heavy metals, because they are simply not used in our coating. Ships can safely be taken to the Polar regions without having a damaging effect on the environment or coloring the ice.

Because of the quality of the coating Ecospeed requires no use of anodes. As a result there is no loss of zinc materials in the Polar or other regions. No corrosion takes place on ships coated with Ecospeed.

When the cleaning effect of the ice is not sufficient all animal growth can be removed easily with intermediate underwater cleaning. There is no detrimental effect on the marine life. There is no chemical influence. The problem of biofouling is therefore completely handled. The animals are removed and left behind in their native environmental zone. They are not transported to another

environmental zone. We promote this as a total solution because achieving this only depends on the cleaning of the ship.

Conclusion

We have well over a hundred applications of ice-going ships. *RRS Ernest Shackleton, RRS James Clark Ross* and *HMS Protector*, all of British Antarctic Survey, have been coated with our products with great and conclusive results. Our Ecospeed coating was also selected for the newbuild research vessel *RRS Sir David Attenborough*, the biggest commercial shipbuilding contract in Britain for 30 years.

Over a period of fifteen years these have shown that Ecospeed can withstand the impact of ice for many years. It is not a coating system that you get for one or two years, it is a system that you get for twenty years and longer.

Subsea Industries NV
Boud Van Rompay
Founder

Ecospeed wins Arctic Innovation Award 2019

On April 2, Subsea Industries won the Arctic Innovation Award 2019 for its Ecospeed non-toxic hull coating. The winner of the award was announced at the Arctic Shipping Forum held at the Paasitorni Congress Centre in Helsinki, Finland.

According to the organizers the panel of independent judges, consisting of leading Arctic specialists, gave the award to "the company or individual that has developed the most innovative new technology, environmental practice or service to benefit the Arctic region."

About the award Subsea Industries CEO Boud Van Rompay said: "We are very proud to have been given this award by important members of the Arctic shipping community. This recognition strengthens us to keep pursuing our goal of clean rivers, seas and oceans."

Subsea Industries CEO Boud van Rompay was proud to have won the award.

The underwater hull of the polar research ship RRS Sir David Attenborough *is protected with Ecospeed.*
Photo credit: Jon Payne (Cammell Laird).

Experience has shown that Ecospeed stays on the hull much longer and resists the ice far better than the most generally used specialized ice coatings.

Below you can find a short summary of the winning entry.

No repaint needed after 10 years sailing in ice

The number one consideration in a hull coating for ice-going vessels and icebreakers is the ability of the coating to protect the hull in the harshest marine environment there is.

Experience has shown that Ecospeed stays on the hull longer and resists the ice far better than the most generally used specialized ice coatings. Ecospeed remains bonded to the ship's plates even as they flex and bend under ice pressure and impact.

Ecospeed has been recognized by Lloyd's Register as an abrasion resistant ice coating for ships. Its correct use on the ice belt specifically permits a reduction of the ice belt's steel plating by up to 1mm.

An ice-going hull coating must have low friction characteristics in order to be fuel efficient. But it is not enough for the hull to be smooth and have low friction at launch. It must stay that way for the life of the vessel. Ecospeed will hold up and will not be damaged in the ice and so will remain smooth for the life of the vessel, thus saving fuel. Even if minor repairs are needed in drydock the original quality of the coating remains intact.

Applying Ecospeed is a simple process which can be carried out using the usual spray equipment without tenting and heating. Only two coats of 500µm each are required. Minimum overcoat time is a few hours and there is no maximum, making it easy to fit into your drydock or new build schedule. ■

In ten seasons operating RRS Ernest Shackleton *with Ecospeed, British Antarctic Survey had to touch-up the coating system only in areas of mechanical damage.*

ECOSPEED®
SHIP HULL PERFORMANCE TECHNOLOGY

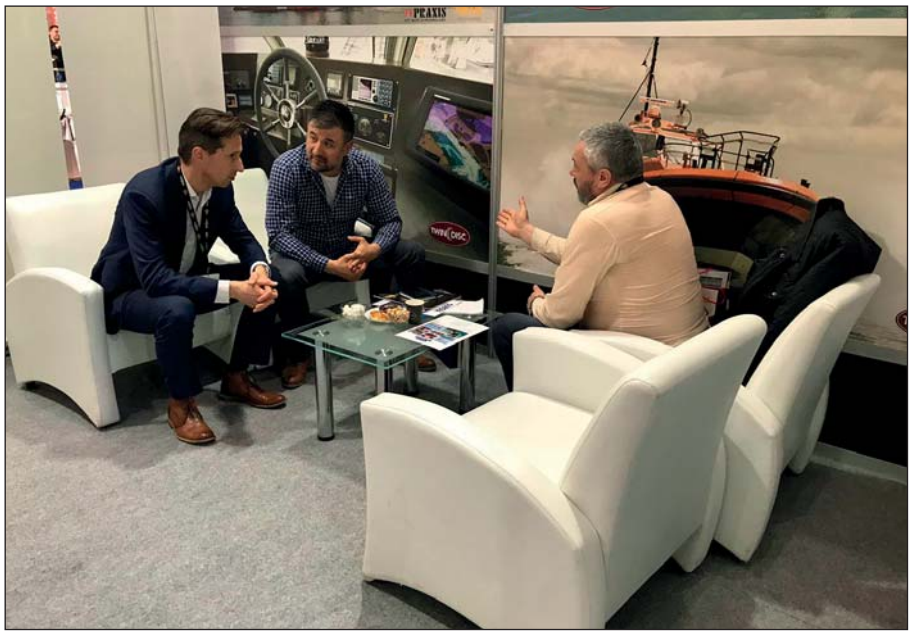
On the road with Subsea Industries' teams

The first months of the year have been busy for Subsea Industries and Hydrex with both of the companies' coatings and hull care teams attending key maritime events across the globe as part of their aim to optimise their market share in the marine sector.

Subsea Industries was part of Amat Engineering's busy booth at Exposhipping. On the right Subsea Industries Sales Officer Mr. Wouter Eelen.

Kick-starting the 2019 exhibition and conference schedule was a visit to Istanbul to exhibit at the increasingly well-attended Exposhipping event in Istanbul. This biennial event has grown exponentially over recent years with the 15th edition welcoming over 200 exhibitors and 6.000 visitors from 41 countries.

Exposhipping was opened with the participation of President of IMEAK Chamber of Shipping Tamer Kiran, Chairman of the Board of Directors of the Ship Yacht and Services Exporters Union Cem Seven, UBM General Manager Atilla Marangozoglu, and the representatives of the maritime sector.



Subsea Industries Production Executive Mr. Manuel Hof (seen on the left) during Exposhipping 2019.

"For us, the event was an enormous success," said Subsea Industries, Production Executive Manuel Hof. "We have had some very positive enquiries from a number of potential buyers and were able to close a very important deal during the event."

Europort Turkey was followed in quick succession by Sea Asia, Singapore's foremost maritime exhibition and conference.

"Despite the offshore sectors down-

According to Hydrex Sales Officer Steven De Keyzer (seen in the middle) Sea Asia 2019 was a great success for both companies.

We were part of the bustling Pamarine booth at Sea Asia 2019.

turn, the Lion State continues to be an important, strategically-placed maritime hub so it is crucial that we have a presence at this event," said Hof.

Hydrex Sales Officer Steven De Keyzer added: "We were also pleased to have several meetings with potential business partners."

According to the exhibition's post-event press release, the7th biennial Sea Asia Conference and Exhibition saw outstanding visitor engagement with more than 400 exhibiting companies, as well as highly insightful and thought-provoking conference sessions across the three days.

The event saw a record 13 national pavilions including new attendees from Oman, Poland and Turkey. In addition to the lively and informative sessions, attendees had the opportunity to hear from leading maritime and technology companies as part of a comprehensive schedule of seminars.

Subsea Industries and Hydrex will continue their roadshow with Nor-Shipping in Oslo. You can find more information on this event in the announcement below. ■

Ecoshield ideally suited for thruster tunnel protection

After successful results with four existing ro-ro vessels, Ecoshield was applied to the thruster tunnels of three newbuild vessels in Flensburg, Germany.

In the same period another thruster tunnel, on a vessel owned by the U.S. Coast Guard, was also given Ecoshield protection at the Fraser Shipyards Inc. in Superior, Wisconsin.

Grit blasting and application of the two layers is always done in the presence of one of our inspectors. The timing is geared to the schedule of the yard. This flexibility can be easily achieved with Ecoshield because the coating has no maximum overcoating time. This allows the possibility of applying either of the two required layers at any time during the building process.

Thruster tunnel after Ecoshield application.

Thruster tunnel on U.S. Coast Guard vessel after grit blasting.

Application of first layer on newbuild ro-ro vessel.

Second layer applied on newbuild ro-ro vessel.

Ecoshield application with thruster unit and grid fully covered off.

The coating is both flexible and tough. It provides an impenetrable protective layer to the coated surface while its flexibility enables the absorption of the forces that are produced by cavitation. Because of this, Ecoshield prevents the damage that this normally causes, ensuring lasting protection.

Ecoshield has been tested on running gear since 2002 with extraordinary results. Ships that were experiencing heavy cavitation damage to their rudders have seen no further cavitation damage erosion. Some of them have been sailing for as long as 15 years after application with no sign that the coating will need replacement. ■

ECOSHIELD®
THE DIAMOND STANDARD IN STEEL PROTECTION

Application in narrow tunnel with thruster unit in place.

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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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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