

SUBSEA

PROTECTION AND PERFORMANCE



Magazine

234



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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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Editorial

As you can read further on in this magazine, our brand-new Subsea Industries website is up and running. On this website you can find information on our range of coating systems and cleaning equipment, as well as the latest news and case studies.

Technical documents, earlier case studies, our catalogue of magazines a list of certificates, an overview of the most important applications, ... all of this can be found on the new site The familiar url www.subind.net will guide visitors to our homepage. From there they can easily navigate around the site to find what they are looking for.

Be sure to visit our new website regularly as we will update it frequently. We have some exciting announcements scheduled for the coming months.

In another article in this magazine you can read additional interviews



with independent paint inspectors we work with. This is the second part of an article we published a couple of issues ago.

Our range of coatings, which in addition to Ecospeed include Ecospeed Ice, Ecoshield, Ecolock and Ecolast, are all extremely high performance coatings. They come with a 10-year warranty as long as a qualified paint inspector is present to

monitor the application and assist the applicator or shipyard.

Independent paint inspectors are an essential part of our team. They help make it possible for each Ecospeed, Ecoshield, Ecolock or Ecolast application to be carried out to the correct specifications and standards which will guarantee that they perform at optimum for the life of the vessel.

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 offer.



The Umiak 1, owned by Fednav, the most powerful icebreaking cargo ship in the world, sailing with Ecospeed protecting the hull.

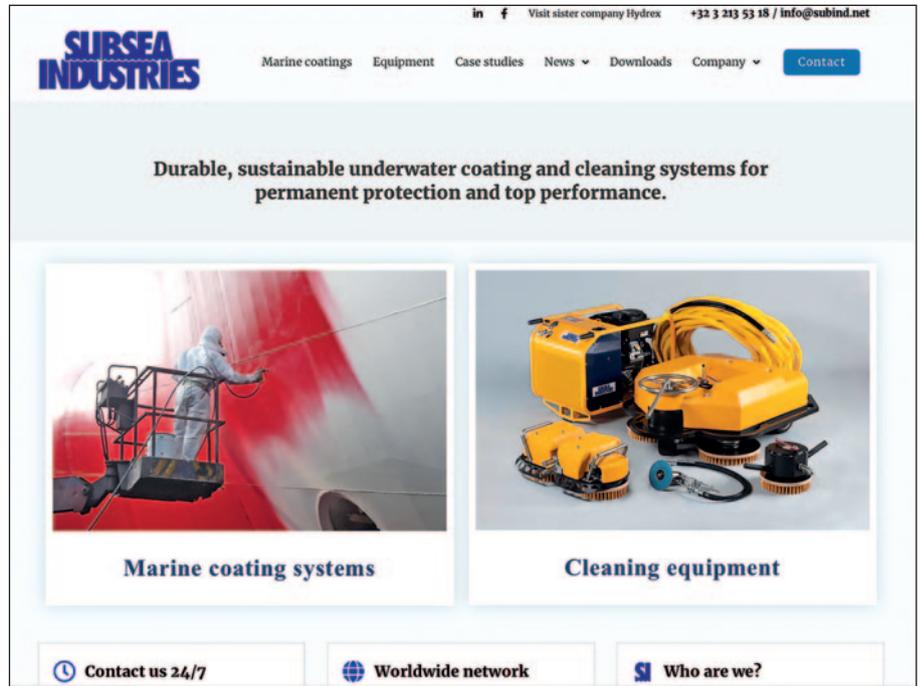
A handwritten signature in black ink, appearing to read 'Boud Van Rompay', is written over a horizontal line.

Subsea Industries NV
Boud Van Rompay
Founder

Subsea Industries has a new website

We are excited to announce that Subsea Industries has a new website. The URL remains the same: www.subind.net.

The previous website was, in fact, getting a bit long in the tooth even though we refreshed it quite recently, and the platform it was built on was limited in scope and we felt our wings were clipped to some degree. The new one has much more information, many more photos and videos, new case studies and applications, and is all the way up to date. It also has room for expansion and development, so we plan to have it keep on growing. The responsiveness of the previous website was also somewhat limited so it was hard to read parts of it on mobile. The new website should be much for phone friendly.

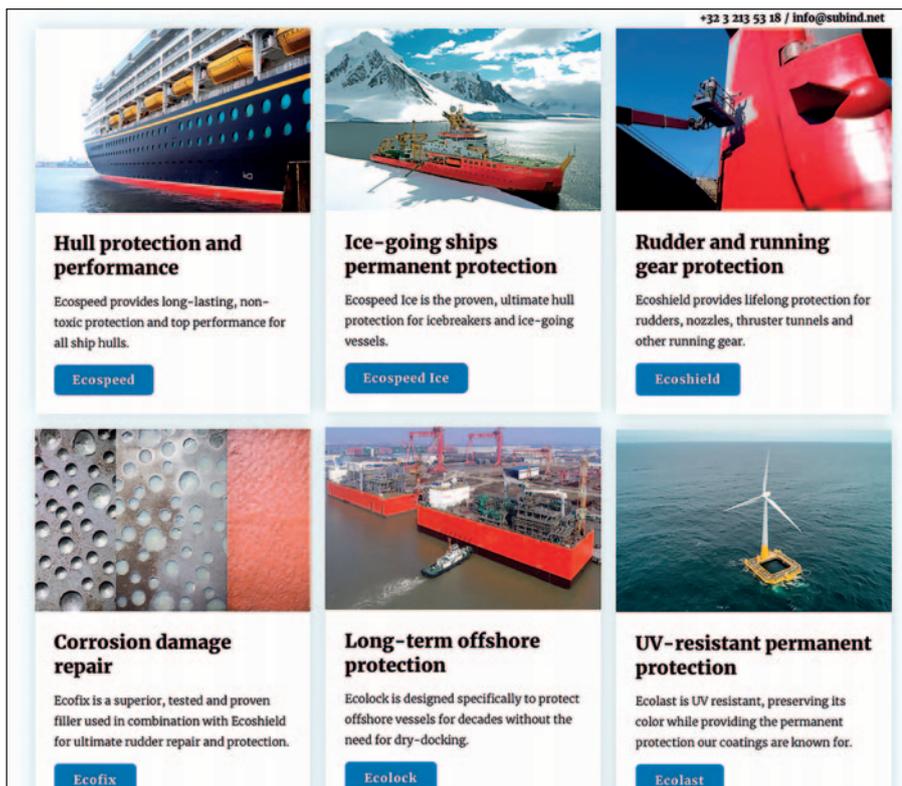


We'd love you to have a look on www.subind.net and send us your feedback. We would welcome sug-

gestions for improvement or additions if you notice something missing. Also if you have had experience with any of our products and feel that your story would make a good case study, let us know and we can arrange an interview so that we can write about you and include you on the website.

It's always exciting for a company to launch a new website, but we do realize that we are not launching it for us but for you, and also for the many individuals and companies who are not yet familiar with Subsea Industries and our coatings and cleaning equipment. Please feel free to share the website with anyone you think might be interested. ■

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One complete solution for protecting rudders and running gear

Over the last few months the rudders and running gear of different types of vessels were given an Ecoshield protective coating at yards in France, Turkey, the Netherlands, Finland, Namibia, the U.S.A. and China. These ships include container vessels, ro-ro ships, chemical tankers, a ferry, a tug and an icebreaker.

Most of the ships belonged to different owners. Some of them were new customers, others returning ones. The returning customers had seen firsthand that Ecoshield solved the



Application of first Ecoshield layer.



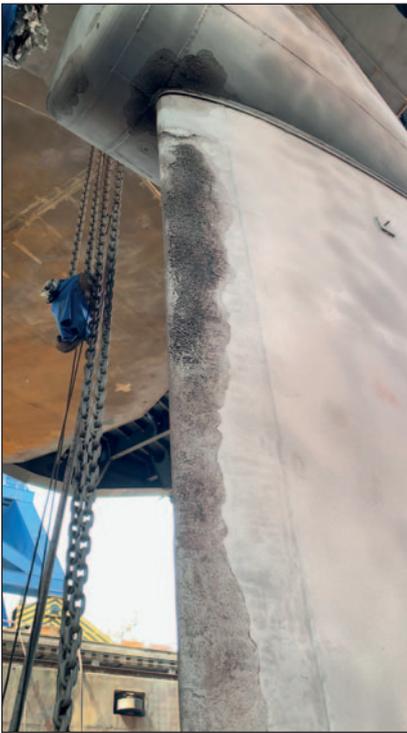
Application of second Ecoshield layer.

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.

Groundbreaking protection

In the last couple of years sister company Hydrex has noted a substantial increase in the number of enquiries for underwater rudder repairs. This clearly shows the need for a cost-saving and lasting solution. A great deal of effort goes into the design and manufacture of rudders because they are such an important part of a vessel. If a rudder is not given the proper protection against cavitation and the resulting erosion and corrosion damage, there can be major financial consequences for the owner.

Ecoshield puts an end to this. By removing the existing paint layers



Cavitation damage on rudder not protected with Ecoshield.



Ecofix is used to repair cavitation damage prior to application.

and applying the coating system on running gear 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. Ecoshield gives a very thorough and lasting defense for a ship's entire service life. No repaint will be required during drydocking. At most minor touch-ups will be needed.

The Ecofix and Ecoshield combo

If a rudder has already suffered corrosion damage, Ecoshield can prevent any further damage from occurring. In such case the coating 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 surface prior to recoating. Because it uses the same basic resin, Ecoshield can be applied just one hour after the filler.

Slot welds can also be filled with Ecofix on a newbuild rudder prior to Ecoshield application.

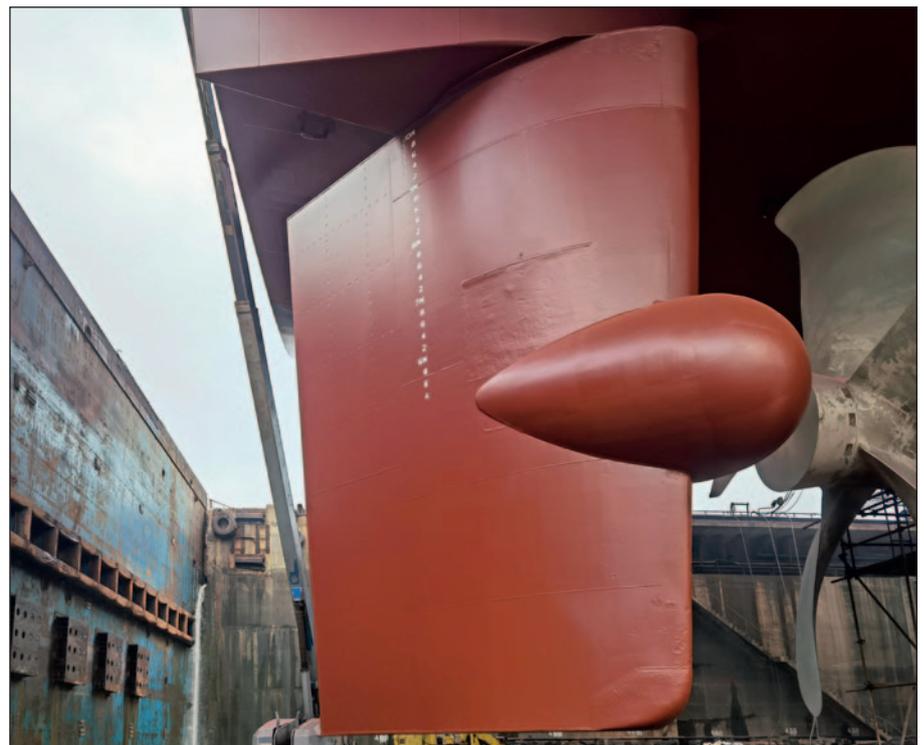
Ecofix can replace much more costly and time-consuming hot work in most cases.

Easy and flexible application

With time at a premium in drydock, the speed of application of Ecoshield is a further advantage. 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. With the right planning, grit blasting and application of the two required layers can be performed in just one day.

Suitable for all running gear

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 several of the vessels treated recently had their thrusters, thruster



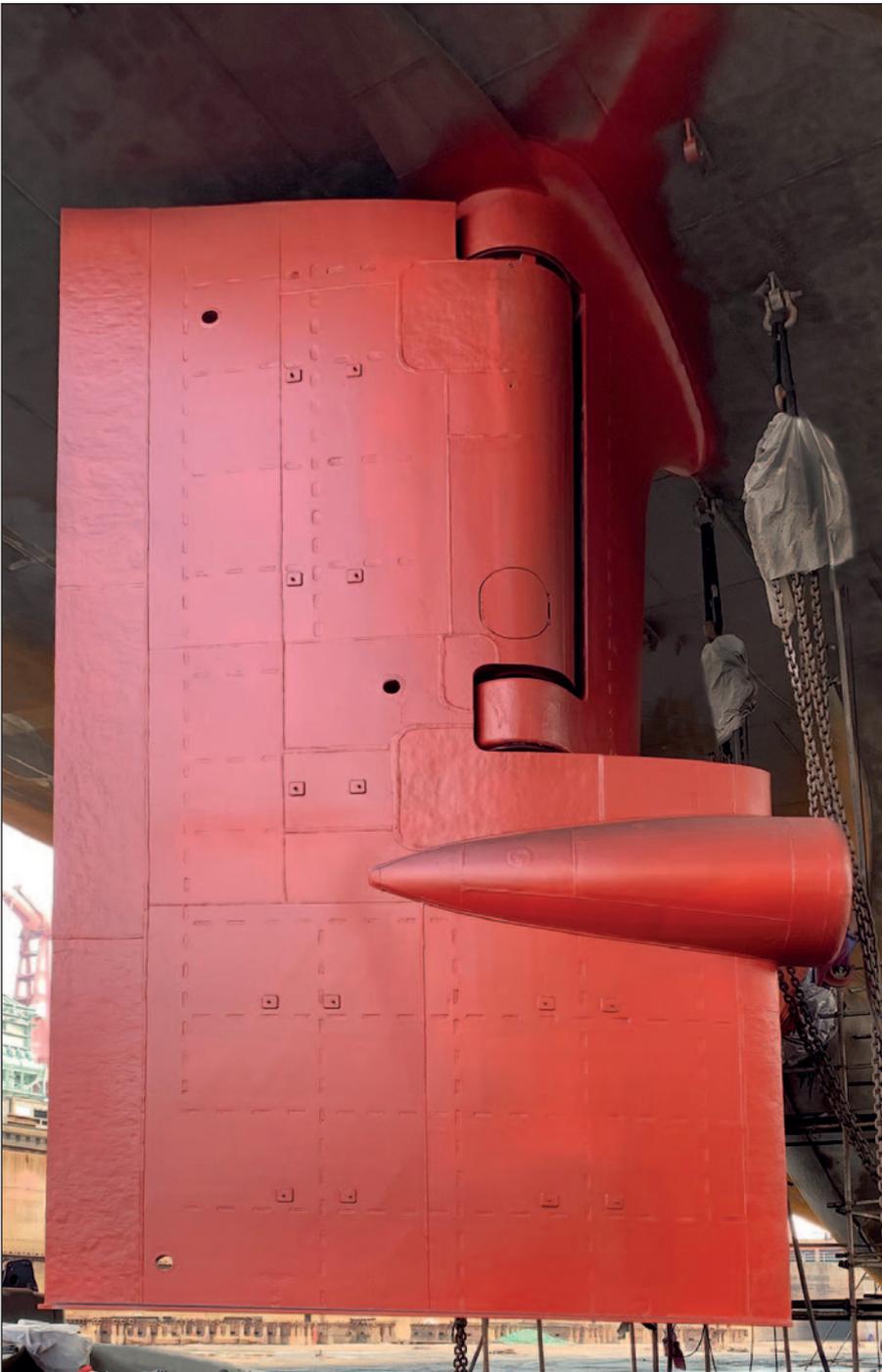
No repaint will be needed during future drydockings. Note the absence of zinc anodes.



Ecoshield application on thruster tunnel.



The coating can be used to protect all running gear.



Ecoshield lasts the lifetime of a vessel. No anodes required.

tunnels or nozzles coated with Ecoshield as well as the rudders.

Results speak for themselves

Evidence of the success of the coating is the number of companies that began by coating one rudder experimentally and have ordered Ecoshield for the running gear on other ships after seeing the results in service. Most have plans to convert their entire fleet. Shipowners who have previously applied Ecoshield to rudders on ships in service are specifying the coating for the rudders and other underwater gear on their new-builds.

Ecoshield comes with a ten-year guarantee. It is the only coating known to fully protect a rudder from all cavitation damage.

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

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Subsea Industries independent paint inspectors - Part II

In on of our previous magazines we published an article about the independent paint inspectors who play such an important role in making sure that our coatings are correctly applied and provide maximum protection for the longest time. In this article we talk to two more: Marcin Zabiello and Mehmet Acer. They provide different viewpoints and further insights into why Ecoshield and Ecospeed have had such excellent success.



Marcin Zabiello, NACE III certified independent paint inspector based in Gdynia, Poland.

Marcin Zabiello

Marcin Zabiello, based in Gdynia, Poland, has worked in the corrosion protection industry for over 20 years, and has been an Independent Paint Inspector since 2016. He provides his services internationally at CERICON (Certified Inspector Consultancy) and has carried out many application inspections for Subsea Industries including full



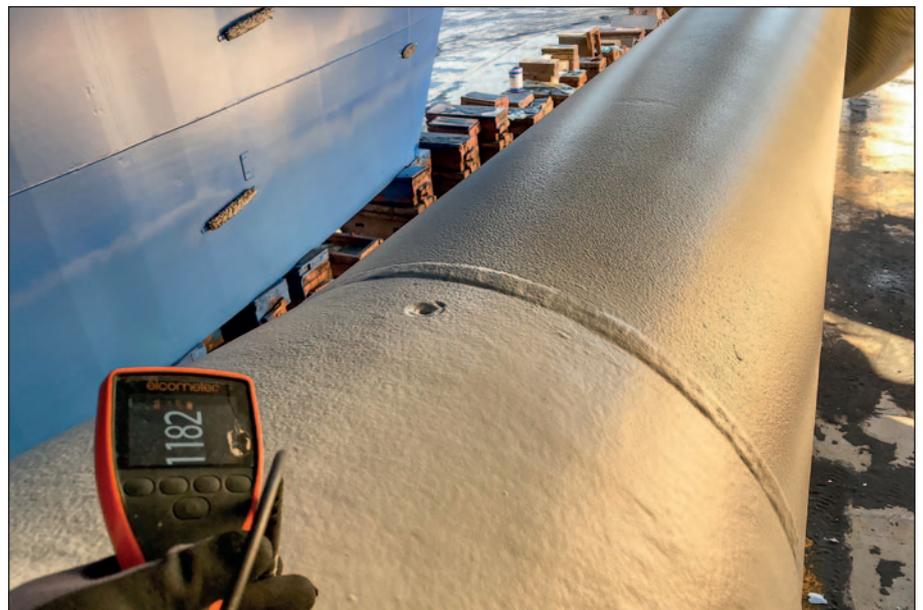
Final coat of Ecospeed on icebelt of the MV Finbo Cargo at Landskrona in Sweden.

hulls, rudders, ice belts, azipods and others.

Marcin has been a NACE Level III paint inspector since 2010. He has worked independently for a number of different companies and has a very wide experience, specializing

in marine coatings but also in other fields such as offshore projects, port cranes and bridges.

We interviewed Marcin on the subject of his experiences with Ecospeed, Ecoshield and Ecofix.



Checking the final DFT of Ecospeed on one of the MV Finbo Cargo's propeller shafts.



Ecospeed applied over Ecofix was the answer to the severely pitted bow of the Umiak 1.



Marcin was one of several paint inspectors who assisted with the Ecospeed coating of the Umiak 1 in Remontowa shipyard, Gdańsk, Poland in 2019.

SI: What is your experience with Subsea Industries and the Ecospeed family of coatings?

MZ: My experience with Subsea Industries goes back to October 2019. Most often these are periodic drydock inspections in various parts of Europe. They include a number of full hull applications of Ecospeed as well as rudder and azipod EcoShield and Ecofix applications.

SI: What is your overall impression of Ecospeed as a hull coating, particularly in comparison to other coatings you have inspected?

MZ: In an era of tightening environmental protection regulations, Ecospeed stands out as a high wear resistant, non-toxic, 2-coating system which complies with the requirements of anti-fouling systems as stated in (AFS/CONF/26). Its performance warranty makes it a product which is increasingly chosen for projects.

SI: How do you feel about EcoShield and Ecofix as a solution for the repair of rudders and running gear that has been damaged by cavitation and corrosion, and as protection against damage from cavitation, corrosion.

MZ: Ecofix is a proven, effective and timesaving filler which provides extraordinary protection against cavitation damage. By using the same basic resin as EcoShield it is very economical and becomes a very competitive alternative to expensive surfacing of steel by welding. I am not sure if I can compare Ecofix to other fillers used in the market. But, as far as I have observed, the consistency of Ecofix significantly increases the efficiency of the application that restores the steel back to its original shape with a smooth surface.

SI: How easy and quick is the application? Does it save time compared to other alternative products?

MZ: If you stick strictly to the application requirements, the 2-coating system provides good hull protection and mechanical anti-fouling properties and facilitates a flexible application schedule. Because of the very short and no maximum overcoat time, we can accomplish fast painting up to 100 liters within a 30 minutes window when applying it to the exterior hull structure.

SI: How is your relationship with Subsea Industries as a company you do work for?

MZ: Providing service for Subsea Industries is an especially valuable cooperation since I am working with a different concept of hull coatings which has set a new trend. They provide a high standard of technical support with immediate assistance, leading all parties involved to a successful project.

SI: How would you sum it all up?

MZ: Subsea Industries offers products that sell themselves.

Mehmet Acer

Mehmet Acer is an Independent Paint Inspector based in Istanbul, Turkey. Having graduated in 2002



Mehmet Acer, FROSIO 3 independent paint inspector based in Istanbul, Turkey, frequently oversees coating applications for Subsea Industries.



Mehmet was the paint inspector for the Ecospeed and Ecolock application to the Helios and Selene ice-going tugs in 2020-21.



DFT reading after the second coat of Ecospeed on the Helios.

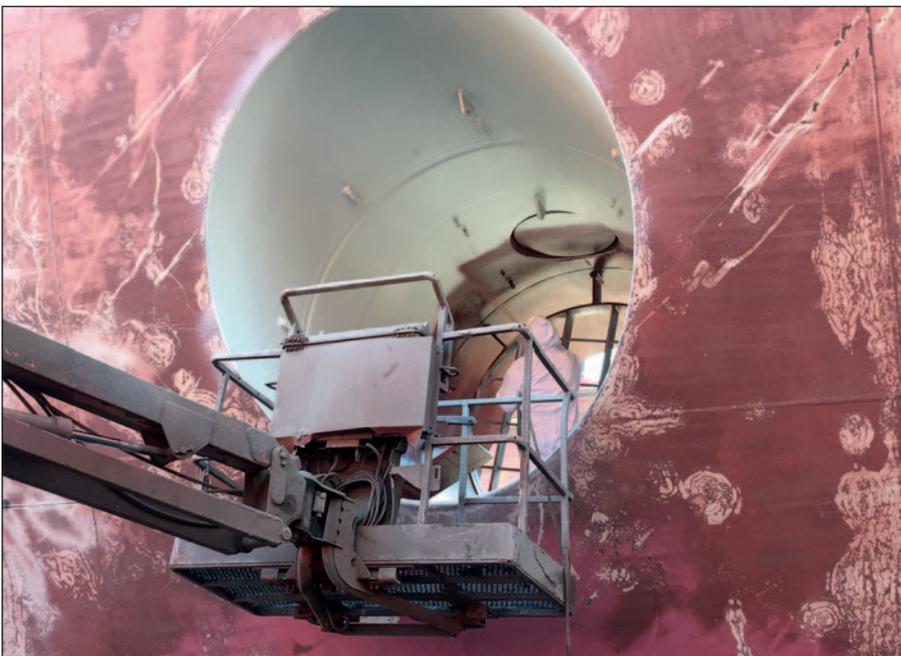
with a degree in naval architecture and marine engineering, Mehmet went to work as a paint inspector. In 2008 he achieved FROSIO 3 certification. His twenty years in the industry as an inspector have brought him into contact with many different brands and types of coating. He specializes mostly in marine coatings and has represented Subsea Industries on about ten Ecospeed and/or Ecoshield applications.

SI: What is your overall impression of Ecospeed as a hull coating, particularly in comparison to other coatings you have inspected?

MA: No limitation for overcoating is one of the most important advantages. Additionally, fast drying, easier adjustable catalyst (1 to 2 percent), and the fact that it is applicable at higher thickness (500 to 1500 microns) without sagging or running are all advantages. The only disadvantage is that more roughness is



Another successful application with Mehmet as inspector: the Polar-NB in 2021.



Mehmet was also the inspector for the Ecoshield application to the rudder and thruster tunnel of the Seaspan Berlin Bridge in 2021.

required for surface preparation compared to other products.

SI: What is your opinion of Eco-shield and Ecofix as a solution for the repair of rudders and running gear?

MA: They offer excellent protection against cavitation and corrosion and require less repair compared to other products.

SI: How easy and quick is the application?

MA: It's a big advantage that it consists entirely of two layers *with extended overcoating interval*. It is fast drying which makes it possible to complete the application on the same day. The fact that there is less possibility of sagging or running at high thickness saves time with less repairs. The fact that cans of 1 and 4 liters are available saves waste on minor repairs.

Mehmet describes the relationship with Subsea Industries as "Honest!!!"

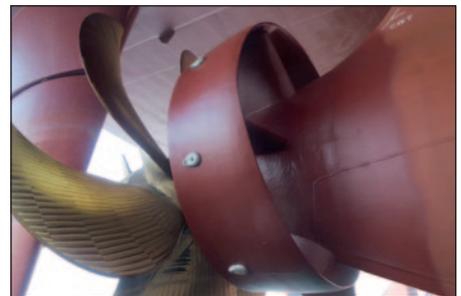
Conclusion

These are two more of the network of independent paint inspectors who attend applications of Ecospeed and Ecoshield to assist with providing the advice and guidance needed to ensure that the coatings are standardly applied and meet all the requirements.

We will be interviewing others in the future and hope that the information they share is helpful in providing a comprehensive picture of our coatings and some comparison with other coatings that these inspectors come into regular contact with. ■

SUBSEA

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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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