

SUBSEA

PROTECTION AND PERFORMANCE



Magazine

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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

Not only do our coatings offer lasting corrosion protection to ships and offshore structures, they even make cathodic protection obsolete. The reason for this is that the high concentration of glass platelets in our coatings insulate the steel completely. This has been proven time after time.

Experience has shown us that when properly applied, our coatings make the use of sacrificial anodes unnecessary. As a result, in addition to the considerable cost savings associated, there is no emission of harmful zinc into the water from ships protected with our systems.

This is what the senior superintendent of a semi-submersible launch platform had to say about the subject:

“The main reason we chose Ecolock for the hull was to avoid the penetration through the paint by the fouling and to protect the hull. I saw that it’s not penetrating. It looks good. There were some jack-up rigs ahead of us in drydock. I saw how much steel they had to change due to a poorly protected hull. What they do is just put a lot of anodes on and sit there and then they have to go into drydock and change a lot of steel, instead of putting Ecolock on the hull to begin with. One of them had been in drydock for six or seven months changing steel. That’s a lot of money. They can get rid of all their anodes and all the rest of it and put this coating on. That would be a big benefit.”



This is far from the only example we have heard from our customers. An LNG barge has been in operation for 11 years without sacrificial anodes. During its most recent docking in 2022, no corrosion was found on the hull.

Both workboats of Subsea Industries’ sister company Hydrex have had Ecospeed on the hull for 13 years. No anodes have been installed on the vessels. No corrosion is found on these workboats.

A cruise ship has been going strong with Ecospeed for over 15 years without cathodic protection nor corrosion damage. The same goes for a container ice-going bulk-carrier coated in 2011. In none of these cases has the coating been replaced in all that time.

And these are just a few of the examples of full hulls. Many, many rudders have been sailing for up to 15 years without suffering corrosion damage, despite the absence of cathodic protection.

Whether it’s a rudder or a full hull, you can profit from the protection our coatings bring. Feel free to contact us if you want to discuss this.

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

Subsea Industries NV
Boud Van Rompay
Founder

Say goodbye to cavitation damage on running gear

In the last year more than 100 vessels belonging to many different owners received Ecoshield protection for their rudders, bow thruster tunnels, nozzles and other energy saving devices. The applications were carried out in shipyards around the world on a wide range of vessels.

Rudders, thrusters, nozzles and other underwater running gear are exceptionally prone to corrosion and cavitation damage. Cavitation is caused by bubbles produced by the spinning of propeller blades. If running gear is not given the proper protection against this, the damage can be severe.

This leads to expensive and time-consuming repairs in drydock at least or malfunctioning of the running gear at worst. A rudder has been found missing in its entirety on



Cavitation damage on energy saving device prior to Ecoshield application.



Rudder after surface preparation.

more than a few occasions with substantial financial and safety-related consequences.

A growing number of shipowners are using Ecoshield strategically to protect the rudders and running gear of their entire fleet. They see the savings that are possible because there is reduced time in drydock at newbuild and when in service, no hot work needed any more, and anodes can even be dispensed with.

A lasting solution is available

Ecoshield was designed to protect all running gear for the lifetime of



Ecoshield application on thruster tunnel.

the vessel. This coating system is applied only once. No repaint will be needed during future drydocking. Only small touch-ups to repair mechanical damage will be required.

Applying Ecoshield is a fast and easy to learn process. No special equipment or personnel are required. As a result, an application is very flexible and can easily be scheduled around the planning of the yard.

Only two layers are required. The minimum overcoating time between these layers is only three hours and there is no maximum overcoat time. This means that most running gear can be coated in a single day, but the process is also very flexible.



All running gear, including thruster tunnels, can be protected with Ecoshield.

Newbuild ships benefit the most from Ecoshield. Applying the coating during building means a vessel's running gear will be protected from the moment the ship leaves the shipyard until the end of its service life. A shipowner will not have to worry about repainting during any of the scheduled dockings.

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.



Ecoshield can be applied at the block stage, prior to installation of a rudder.

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. Ecofix can replace hot work in most cases.

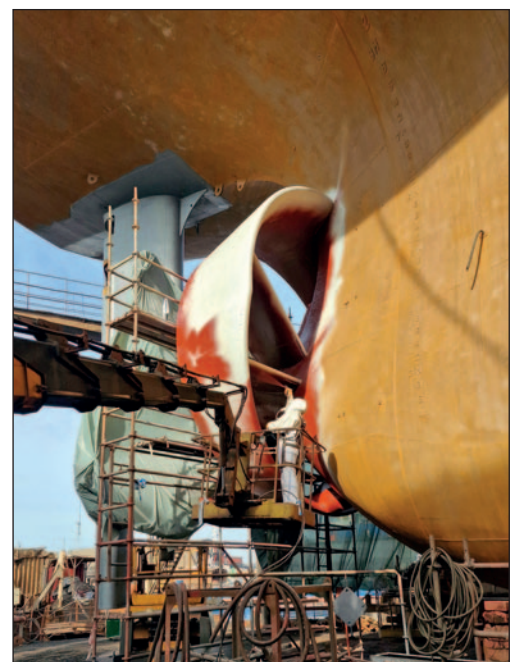
Slot welds can also be filled with Ecofix on a newbuild rudder prior to Ecoshield application.

From one rudder to an entire fleet's running gear

Since the original application, rudders have been coated on a wide variety of ships: cruise ships, cargo vessels, container carriers, ro-ro



Ecoshield is applied in only two, identical layers.



Application on this energy saving device protects it from cavitation and corrosion damage.



No repaint will be needed during future dockings.



No cathodic protection is needed on rudders

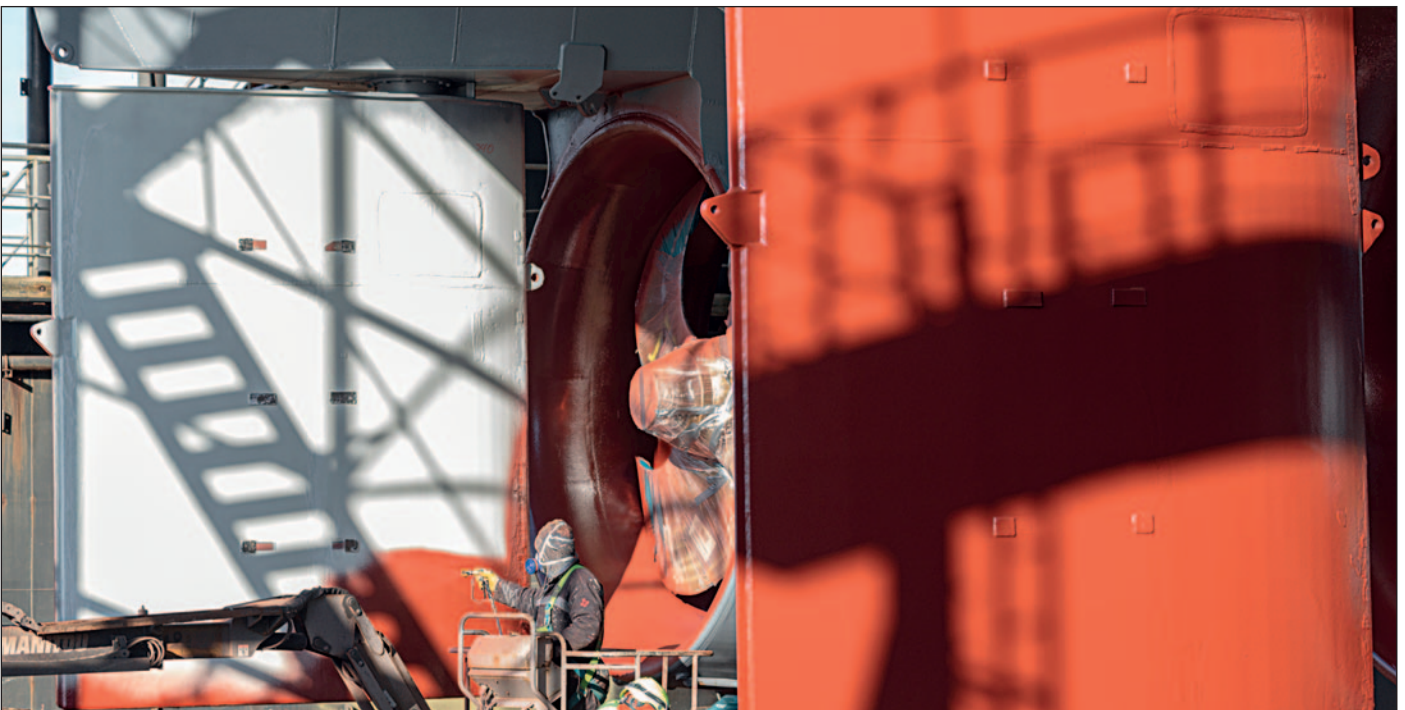
cargo ships, cable layers, dredgers, crude oil tankers, research vessels, ice-going ships and icebreakers, tug-boats, reefers, passenger ferries, bulkers, navy vessels and others. These applications were performed in shipyards across the globe.

Shipowners that began with a test on a single rudder have since then

ordered the same protection for the running gear of their entire fleet. Several have included the coating in the newbuild specs to make sure cavitation and corrosion cannot touch the steel of their ship's running gear. Even after well over ten years of service these owners are experiencing zero cavitation damage or failure. ■

Do you want the certainty that your ship's running gear is protected for its entire lifetime? Contact us today.

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Ecoshield application is scheduled around other work on the vessel without interfering with it.

New Agents introducing Subsea Industries coatings to Chile

Walbaum Chile finds the nation's market receptive to Subsea Industries products

Founded in 1966, Walbaum Chile has nearly 60 years of experience working with different sectors of Chilean industry, providing them with exclusive raw materials and leading international industrial equipment and products. They advise their customers in the pre-sale phase about the best equipment and raw materials for their business, coordinate product testing and provide after sales service.

A maritime nation

With a coastline 6,435 kilometers long, it stands to reason that there is a great deal of maritime industry in Chile. The Chilean salmon farming sector is the second largest contributor to the country's national exports, and Chile is the second largest global producer of farmed salmon. Aquaculture has a considerable infrastructure of workboats, wellboats, pontoons and other vessels and structures. Due to the proximity to the fish, a non-toxic coating is very important to this industry.

The south of Chile depends on a network of ferry systems for transport between the islands and among the fjords which form its coastline.

Add to this the Antarctic cruises, coastal shipping, industrial fishing, the navy, and the usual workboats, tugs and other ships and boats one would associate with such a long coastline and maritime nation, and it is not surprising that Chile has great

market potential for both Subsea Industries products and Hydrex services.

A natural fit

Walbaum Chile is off to an excellent start with contacting this market and making our products known.

Philip Walbaum, the company's Business Manager, explains why the collaboration with Hydrex and Subsea Industries was a natural fit for Walbaum Chile: "We are dedicated to seeking out top of the line products in technology to satisfy the needs of our clients," he says. "We felt that Hydrex and Subsea fulfilled this goal by offering much needed products that were not in the South American market. They have had tremendous acceptance in Chile so far. In addition, they complement perfectly our line of industrial liquid filters which are also used extensively in the marine industry in Chile, as well as in the fish processing industry."

Walbaum Chile is a family business, now into its second and third generations. The company is very well connected already with the Chilean market, as well as with that of neighboring South American countries. Walbaum has an excellent reputation based on having provided superior, reliable service for more than half a century. They have earned a reputation for representing only top quality companies in the various

lines they deal with.

The Walbaums have been very active in seeking out potential clients for Subsea Industries and Hydrex, visiting them throughout the country, even in the far south which is a full day's travel from Santiago where Walbaum Chile is based. They have been working together with Hydrex and Subsea Industries in close cooperation to enlighten prospects and help meet their needs.

"The relationship with Hydrex and Subsea has been excellent, with tremendous support from both companies, in terms of our training and that of our clients, through presentations, supporting documentation, certificates and everything needed by clients to carry out their projects," continues Philip.

Bright prospects

Martin Walbaum has taken on the role of Business Development of the new lines of business for Walbaum Chile. "We are contacting all the main shipping companies, tugboats, wellboats, shipyards and others and arranging in-person and online meetings," he says. "These have been very successful for introducing Hydrex and Subsea products and generating great interest in them. The market is very receptive, and clearly understands the benefits of our products. We have orders placed and about to ship our first one to a very important salvage and

towage company in the south of Chile, with more orders on the way. Our position will definitely get stronger as soon as we have our product on some Chilean ships.”

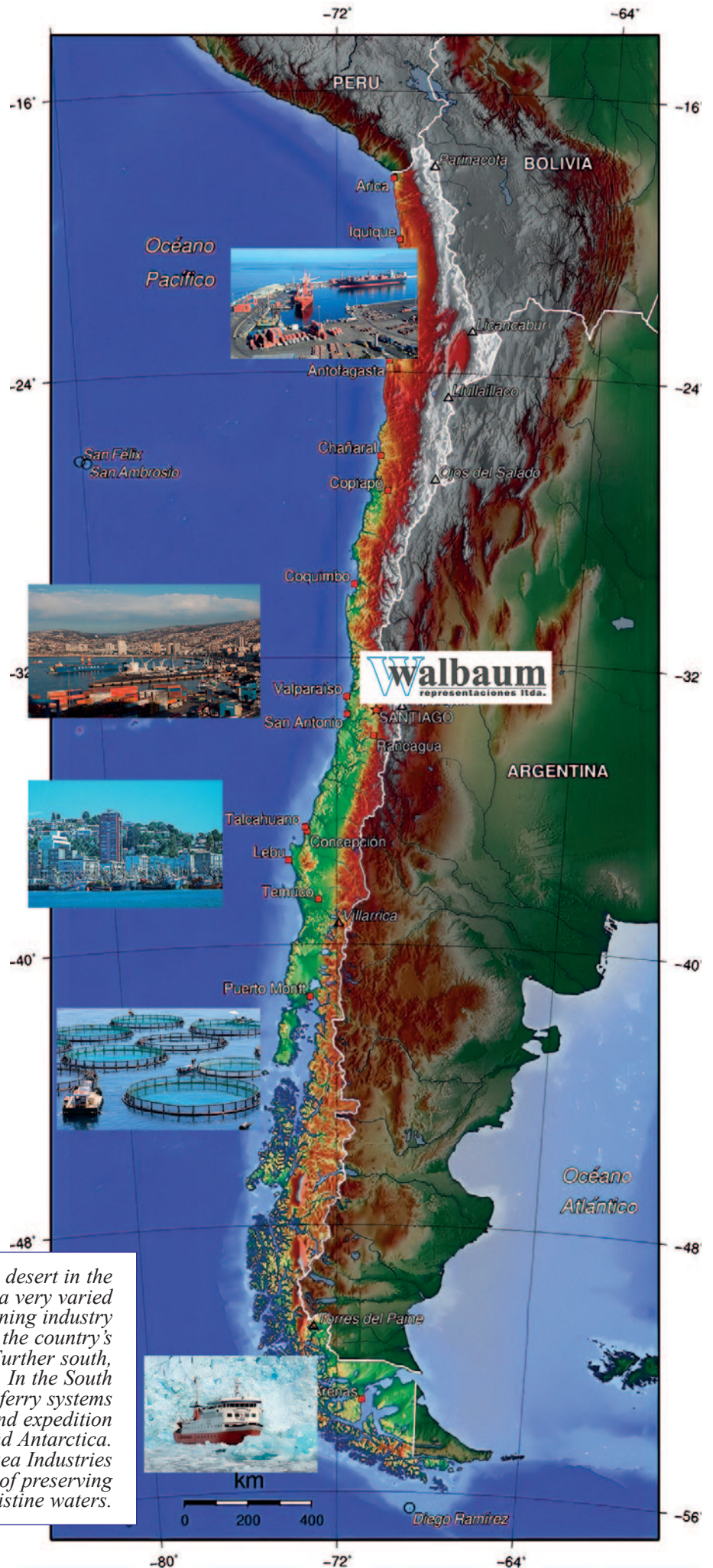
Already Walbaum Chile are in contact with all the major Chilean fishing companies, ferry operators, cruise companies as well as the shipyards, tugboat and workboat companies in the country.

“The prospects are very optimistic and we will certainly reach a significant market share in the medium term,” concludes Martin.

Our goals for Chile

The new agents in Chile have definitely hit the ground running and have mounted an enthusiastic, far reaching offensive which is starting to show results very rapidly.

Our aim is to combine the strengths of Walbaum Chile, their knowledge of the market and extensive network, with our unique coatings and top level underwater maintenance and repair services. And thus to help the Chilean maritime industry achieve greater economic success as well as to help protect the many kilometers of Chilean coastline by replacing toxic marine paint with our environmentally safe hull coatings. ■



With a coastline of 6,435 kilometers from desert in the North to glaciers in the South, Chile is a very varied coastal nation. In the North, the mining industry requires sea transport. Valparaíso is the country's main port with very varied shipping. Further south, Talcahuano is a key port and naval center. In the South there is extensive aquaculture as well as ferry systems covering the islands and archipelagos and expedition cruise ships going to Patagonia and Antarctica. There is tremendous scope for Subsea Industries coatings, with the added advantage of preserving Chile's pristine waters.

The Corrosion Handbook for Shipowners and Operators

A Google search for “corrosion in ships” returned 48,300,000 (forty-eight million three hundred thousand!) results in 0.35 seconds. A search for “books on corrosion of ships” returned 35,800,000 results in the same amount of time. Then there are volumes and volumes of scientific papers, journals, white papers, brochures and advertisements, not to mention podcasts, videos, courses and so on. One would think, with all that vast body of information, that the subject of corrosion at sea would long since have been solved.

And yet, the problem continues to come up and loom heavily in the lives of ship superintendents, fleet managers, ship builders, ship repair



Many major shipping companies turn to Ecoshield to protect the rudders of their ships. Many hundreds of rudders have been coated successfully in the last 20 years. It has put an end to cavitation erosion.

yards, chief engineers, vessel captains and many others who are in charge of protecting ships’ hulls and running gear. They are responsible for safety at sea, the continued proper functioning of the ship and the vessel’s maintained value over time. Corrosion is their main enemy.

Subsea Industries successful solutions

At Subsea Industries we manufacture and supply a range of marine coatings, all formulated with the same basic principle: insulate the steel or other substrate completely with a permanent, tough, glass-based coating and there will be no corrosion.

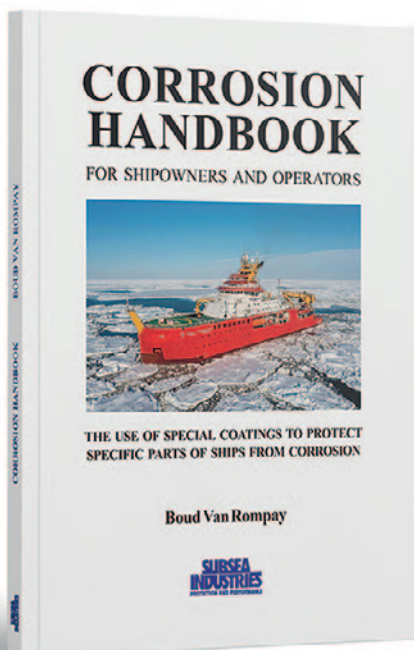
Evidence is piling up. As you can read in the first article in this magazine, major shipping lines are coming back to us again and again, asking us to coat their ships’ rudders, thruster tunnels, nozzles, scrubber outlets and a number of other specif-

ic parts which are particularly prone to corrosion, even when they are coated with traditional hull coatings. Why? Because our coatings really do protect their ships from corrosion. They find that they can even dispense with cathodic protection since the coating insulates the steel so completely that galvanic corrosion is prevented. In the editorial of this magazine this topic is elaborated on.

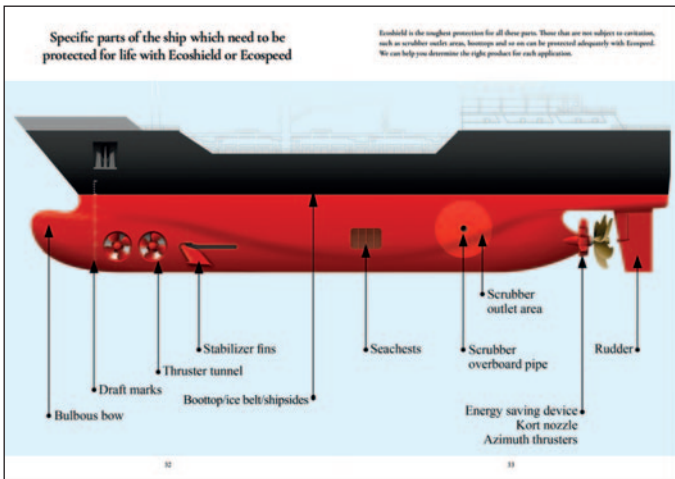
The Corrosion Handbook

After many years of dealing with these requests successfully, we decided to publish a book written by the company’s founder, Boud Van Rompay: Corrosion Handbook for Shipowners and Operators, The Use of Special Coatings to Protect Specific Parts of Ships from Corrosion.

Unlike many of the other books on the subject, this one is rather slim. It is clearly written in simple English



The new Corrosion Handbook by Boud Van Rompay, as its name suggests, is a simple, practical book with real world solutions for shipowners and operators who want to handle or prevent corrosion in their vessels.



The ice belt and the bulbous bow of ice going ships are particularly prone to impact abrasion and corrosion. The Corrosion Handbook provides the solution.

and well illustrated. In its pages you will find the answers to the permanent protection of a number of parts of the ship from corrosion.

Three different types of corrosion are covered:

1. Cavitation erosion on rudders, in thruster tunnels, nozzles and other cavitation-prone parts of the underwater ship.
2. Chemical corrosion in scrubbers, pipes, recycle tanks and scrubber outlet areas.
3. Impact abrasion and wear on boottops, shipsides, ice belts, bulbous bows, decks, etc.

Why these specific areas? Because these are the parts of ships that we are regularly asked to provide the right coating for. These are the areas with which we have had enormous success, evidenced by the requests from major shipping companies to provide the same treatment for ship after ship in their fleet.

The Corrosion Handbook also covers the protection of high traffic decks, the bulbous bows of ice going vessels, stabilizer fins, unusual items such as the Hull Vanes®, even the hoppers of dredgers. Anywhere where corrosion and erosion result-

ing from cavitation, chemical action or high impact abrasion is a threat, we have the permanent solution.

The Corrosion Handbook provides in very concise form the exact proven answer to each of these types of corrosion and parts of the ship. It includes many examples showing the workability of the solution and of our coatings.

Apply once, last forever

The book makes it quite clear that Subsea Industries does NOT follow the repeat business model so common in the coatings industry today, where coatings are expected to last a limited period of time before they need to be replaced.

Our coatings are applied once to a well-prepared surface and are expected to last the life of the vessel. At most minor touch-ups might be required in drydock to repair mechanical damage. The Corrosion Handbook has many examples of this being the case.

No excuses

The Corrosion Manual covers in simple, practical terms the handlings we have developed and that have

proved so successful for these various types of corrosion in ships. It explains the problem, states the solution and provides ample case studies and customer feedback. It also provides practical information on applying the coatings both at newbuild stage and in drydock for vessels already in service, and explains which coating is used for what specific problem.

What you will not find anywhere in the Corrosion Manual is excuses for failure or reasons why certain parts of the ship will suffer from corrosion no matter what you do. We simply have not run into that situation.

Getting your hands on the Handbook

The Corrosion Handbook is not for sale. You will not find it online or in bookstores. If you would like your own copy, all you need do is email us at info@subind.net with a request for a copy or copies of the Corrosion Handbook plus your mailing address and we will send you your book free of charge – our contribution to putting an end to corrosion in ships. ■

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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