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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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Lasting protection for scrubbers

Recently our Ecospeed coating system was applied on the scrubber pipes, outlets and diffusers of a large number of container ships. This demonstrates that Ecospeed is not only the best option for the underwater hull of a ship but can also be used for a wide range of other purposes. The result is a lasting, non-toxic protection against corrosion, cavitation and mechanical damage.

Because of the tight regulations on emissions in the shipping industry, the installation of an exhaust scrubber system has become increasingly widespread. Due to the highly corrosive nature of the effluents from scrubbers, this unfortunately has also led to an increase of corrosion damage on scrubber pipes and outlets which can result in water ingress into



Scrubber pipes prior to Ecospeed application.

the engine room, ballast tanks and cargo holds.

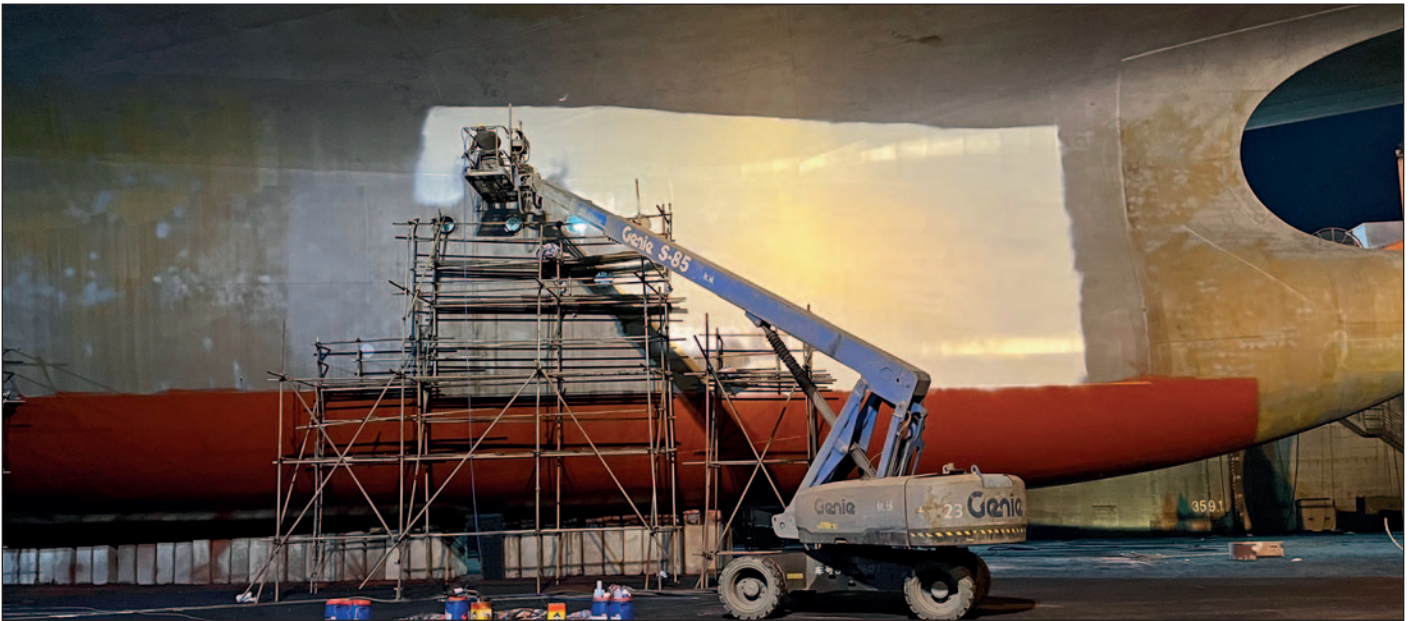
Ecospeed however is highly chemically resistant. Using the coating to protect the exterior outlets as well as the interiors of scrubbers will prevent

corrosion damage and the resulting consequences.

Ecospeed is a lasting, chemically resistant coating that will withstand the hazardous pollutants and protect the scrubbers for years to come.



Application of first Ecospeed layer on scrubber pipes.



Ecospeed is applied in only two layers.



The second layer can be applied as soon as 3 hours after the first.



Ecospeed surveyor inspecting the layer thickness.

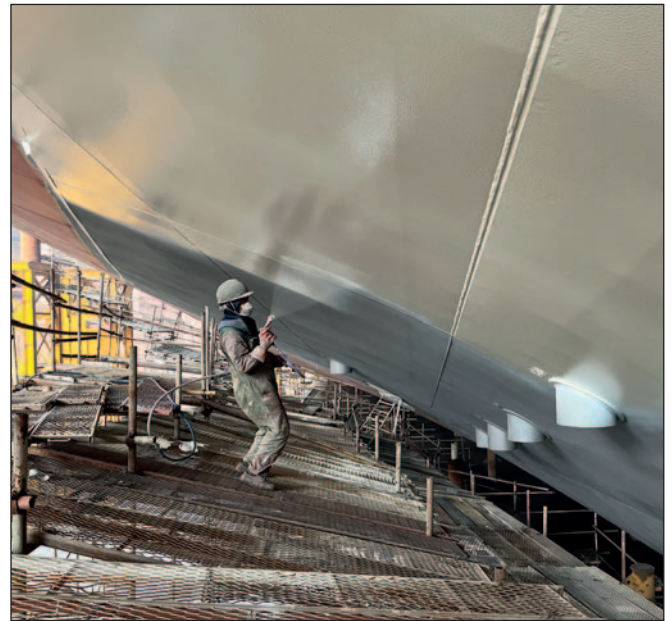
Repairing corroded pipes

If an existing scrubber suffers corrosion damage, it is not too late to repair it. Subsea Industries' sister company Hydrex regularly replaces scrubber overboard pipes. This is done on-site without the ship needing to go to drydock.

In all cases, the new pipes installed by Hydrex are protected with Ecospeed. If no welding work needs



Ecospeed is chemically resistant and will withstand hazardous pollutants.



Ecospeed offers lasting corrosion damage protection.



Ecospeed provides long-lasting, chemically resistant and environmentally safe protection.



All parts of a scrubber can be given the same protection.

to be carried out in close proximity to the coated area, the new pipes are coated in advance. If this is not an option, Ecospeed is applied after the new pipe is installed and all welding completed.

Pipes can also be replaced preemptively. If a pipe starts to corrode, a leak is just a matter of time. By performing the replacement before the leak occurs, a costly, unscheduled repair can be avoided.

Conclusion

Several benefits make Ecospeed the perfect choice to protect scrubbers.

- The coating system is highly chemically resistant. Considering the nature of the process taking place inside the scrubber, this is essential for our customers.
- Ecospeed lasts the lifetime of a vessel. No repaints will need to be scheduled during future dockings of

the ship. This saves time and money.

- It is a true biocide-free solution. The coating is 100% non-toxic so there is no negative effect on the water quality or the marine environment at any point of its application or use. ■

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Typhoon series of underwater cleaning systems

In harsh underwater environments it is essential to have sturdy and reliable equipment. The unique design of our underwater cleaning machines provides the efficiency and durability required in such conditions. All our systems are carefully designed with operational safety as a prime consideration. A range of systems is available for various applications. All our cleaning units are sold separately or supplied with a complete support system including umbilical, tools and hydraulic power unit.

MC313

The unique patented design of the MC313 underwater hull cleaning unit will stand up to the most difficult underwater cleaning conditions encountered on various types of ships. It is designed for larger ship hulls or other large, reasonably flat surfaces. The downward pressure of the brushes can easily be adjusted throughout the operation and the heads are self-adjusting to the contours of the hull. This, coupled with a powerful all-wheel drive system, are major technological breakthroughs in subsea cleaning.

Different types of fouling can be treated with the appropriate tools so the underlying paint layers are preserved. The MC313 is highly efficient. It is a tool for the true professional.



MC313.



MC212.



MC212

The MC212 has an enviable track record, with 40 years of service. It is the most efficient cleaning machine currently available and is highly regarded by the industry internationally. The MC212 is designed for cleaning light, medium and heavy marine fouling from ship hulls, offshore oil & gas platforms, jetties, piles, intakes and internal pipelines.

The equipment has a self-balancing feature, which allows the operator to use the tool safely and effortlessly for long periods.

MC131

The MC131 is a compact, lightweight unit. It is designed for cleaning all kinds of marine fouling from yachts and smaller ships, niche areas on larger ships and offshore

oil & gas platforms. The brush rotation speed is adjustable to achieve an optimum hourly cleaning rate.

MC111

The MC111 is our smallest model specially designed for cleaning ship hulls, propellers and thrusters. The MC111 is very handy and can be easily taken into difficult corners and niches. ■



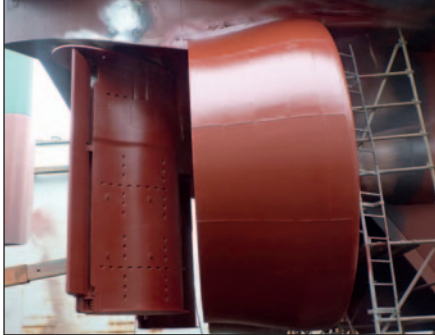
MC131.



MC111.

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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