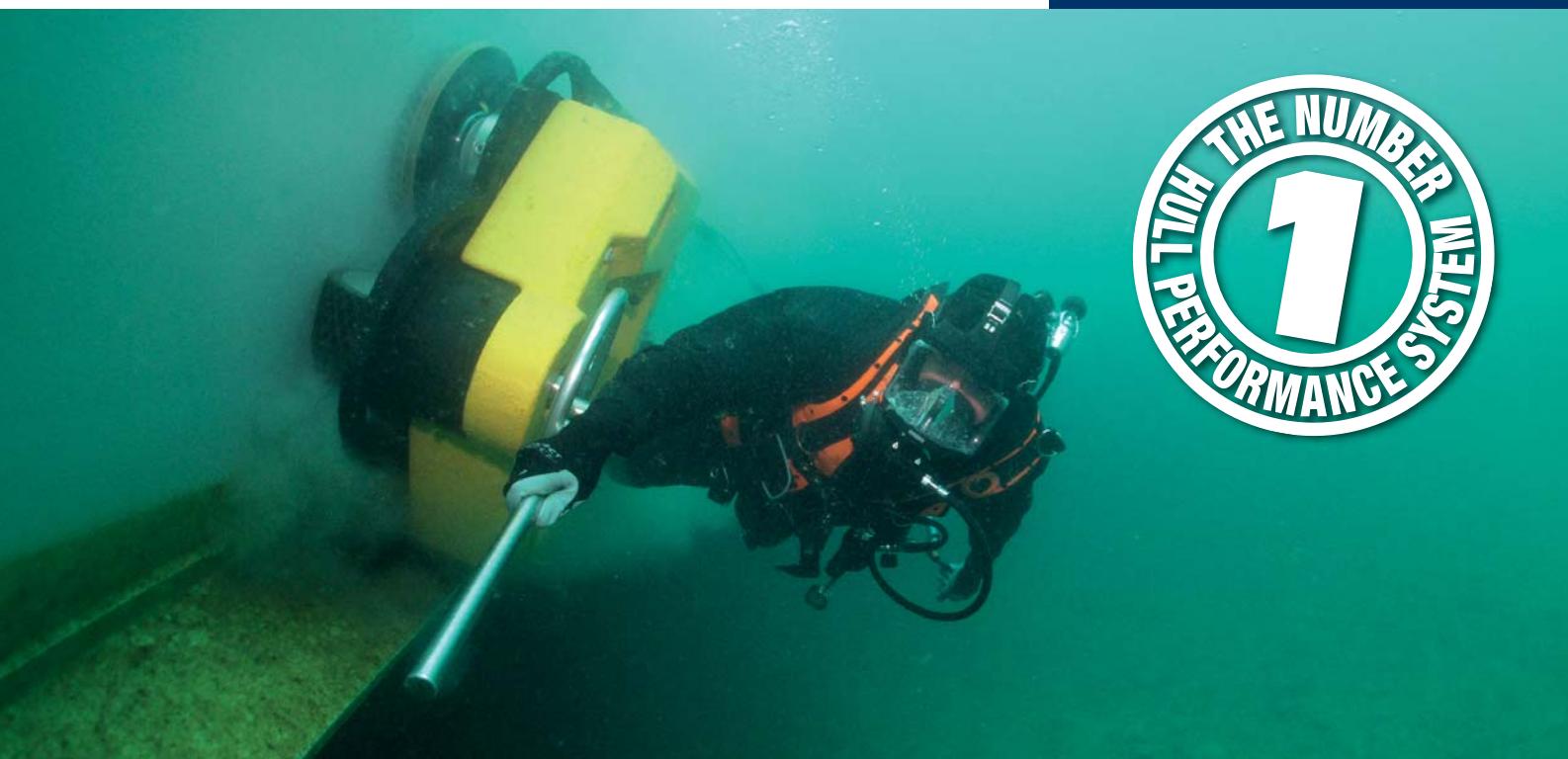


# SUBSEA

PROTECTION AND PERFORMANCE

# NEWS

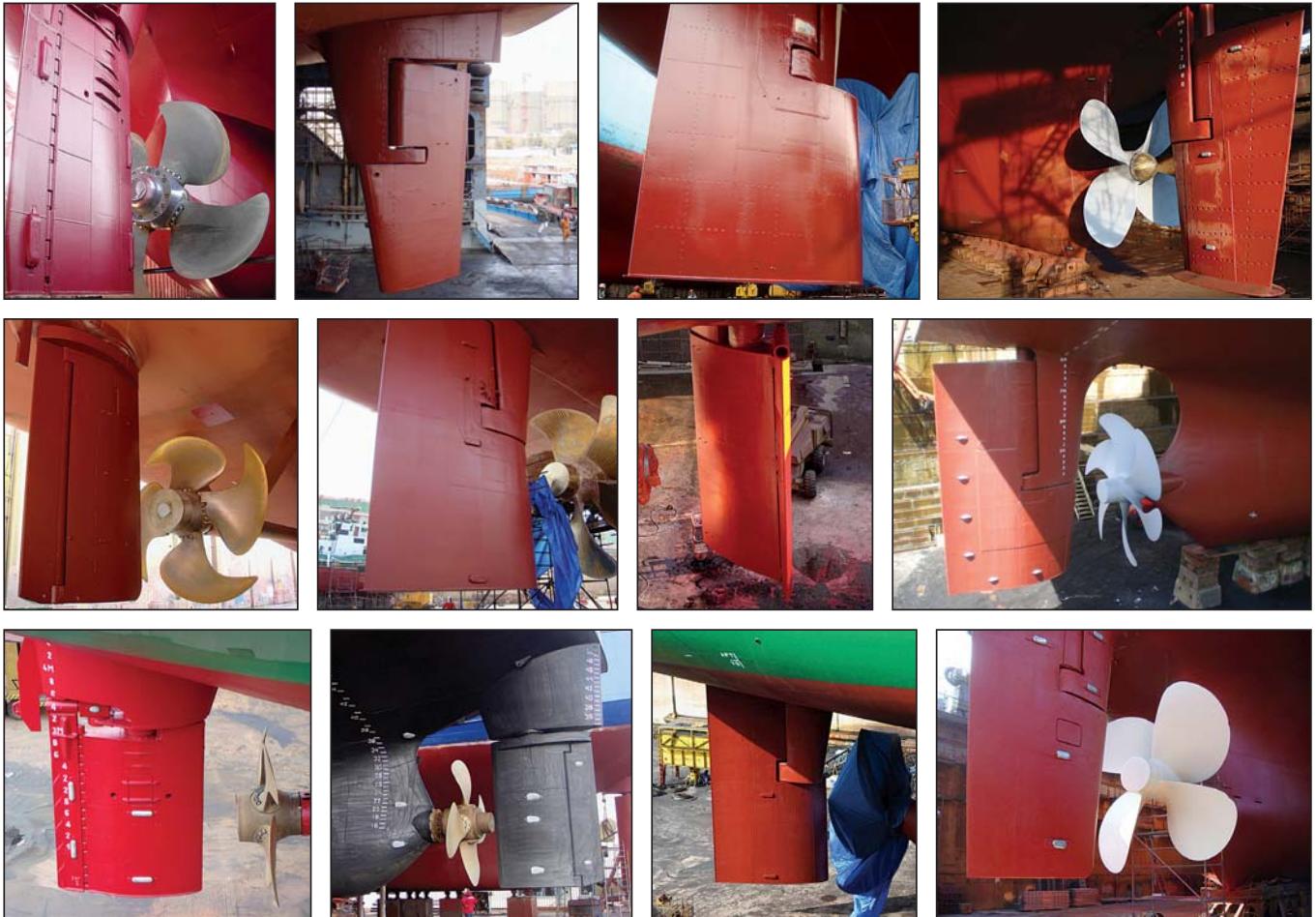
L E T T E R



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# LASTING PROTECTION



**E**coshield gives a very thorough and lasting defense against cavitation and corrosion damage for a ship hull's entire service life.

The coating equally provides the rudder with an impenetrable protective layer while its flexibility enables absorption of the forces that are produced by cavitation. This prevents the damage normally caused

by this phenomenon.

Without proper protection against cavitation and the resulting erosion and corrosion damage, the financial consequences can be severe.

By removing the existing paint layers and applying Ecoshield on the rudder we can break the never ending cycle of painting, suffering damage, having

to perform extensive repairs in dry-dock followed by a full repaint, again and again.

With an Ecoshield application no full repaint will be needed during drydocking. Ecoshield is guaranteed for ten years. At the most, minor touch-ups will be required.

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## ECOSHIELD®

THE DIAMOND STANDARD IN STEEL PROTECTION

# The washable coating

**S**hip 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.

## Fast and easy cleaning

### Underwater maintenance

Underwater maintenance of Ecospeed is carried out with specially designed underwater hull cleaning tools that simultaneously remove all fouling and optimize the smoothness of the paint surface. It allows divers to clean the flat areas as well as the harder to reach parts of the hull without damaging the coating.

One of the many unique characteristics is that with repeated underwater hull cleaning the coating's surface improves. Cleaning can be carried out whenever needed, at any point in its lifespan.

### High-pressure cleaning in drydock

Ecospeed can also be cleaned in drydock with high pressure tools. With Ecospeed the coating is always in a brand-new, excellent condition after a high pressure washing and



*Fouling on Ecospeed can be removed fast and easy.*

no 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.

Several of our customers use this

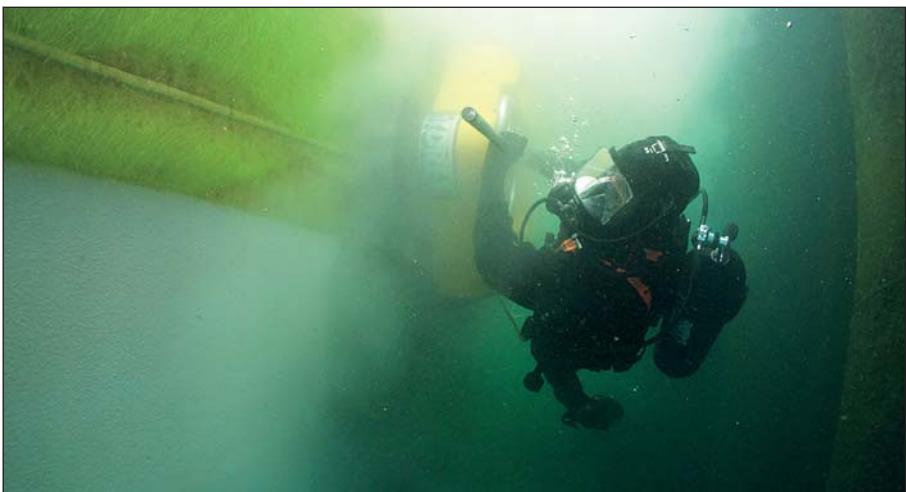
method to have their vessels cleaned. Their ships are taken out of the water, cleaned with high pressure tools and put back in the water in a matter of hours. They all said that this approach helped them get through the crisis.



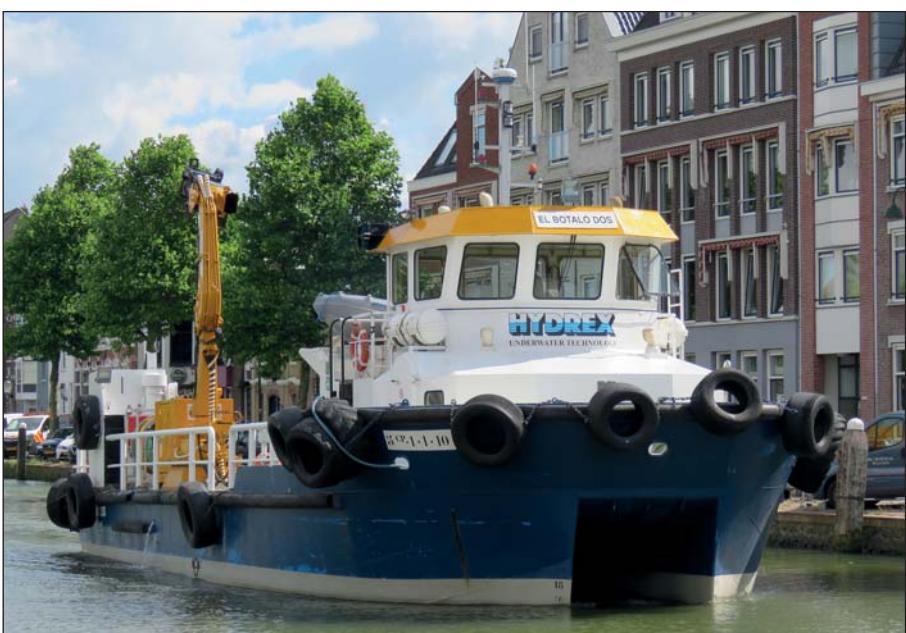
*An Ecospeed application is adapted to the shipyard's schedule and not the other way around.*



*Fouling can be washed off in drydock with high pressure tools or underwater while improving the coating.*



*Ecospeed underwater maintenance is carried out with specially designed equipment.*



*This Hydrex dive support vessel was coated with Ecospeed 10 years ago. It can be cleaned effortlessly and legally in harbours, such as the Port of Rotterdam, which have banned the underwater hull cleaning of conventional hull coatings.*

## **Fewer drydockings**

There has been a trend of extending the maximum drydock interval from five to seven and a half years or even ten years, if a stringent set of rules is followed. One of the requirements is a very strict underwater maintenance plan. Ecospeed's qualities make the coating ideally suited for such a regime. Regular underwater cleaning will maintain and improve the ideal surface characteristics. The biggest barriers to ships staying out of drydock for seven and a half or more years are dealing with bio-fouling and maintaining hull coating integrity. Ecospeed allows ship owners and operators to overcome both these barriers.

## **Long lay-up periods have no negative effect**

The coating is also suited for ships which have a stationary period because an impermeable and impenetrable barrier is created. This gives the coating its excellent and durable anti-corrosive properties and protects the underwater hull against mechanical damage. Despite the aggressive nature of certain types of fouling, no corrosion or damage to the steel will be present on the underwater hull of the vessel after cleaning. The hard fouling is unable to penetrate or damage the coating.

## **Environmentally safe**

### **Toxic-free**

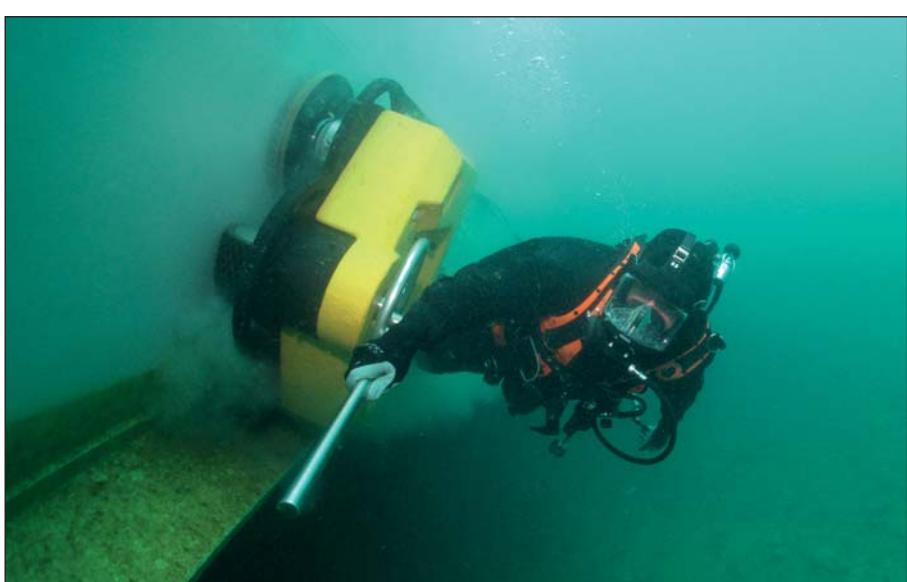
Ecospeed is 100% non-toxic and there is no negative effect on the water quality or the marine environment during application or maintenance.



*When divers clean an Ecospeed hull, there is no paint loss and no toxic plumes are created.*



*Ecospeed is 100% non-toxic.*



*Regular underwater treatment of Ecospeed is at the moment a Best Available Technology to minimize the risk of biofouling transfer.*

## **The definite biofouling solution: clean before you go**

The underwater cleaning of Ecospeed prevents the spread of biofouling entirely. The cleaning frequency is optimized to minimize fouling. This prevents macrofouling from building up.

### **Removal of the ban on under-water cleanings**

Several major ports have overturned the existing general ban on under-water hull cleaning, specifically making an exception for vessels coated with Ecospeed.

### **Conclusion**

Ecospeed is an entirely different, more cost-effective and environmentally-acceptable approach to hull protection and anti-fouling.

There is no need to reblast and re-coat the hull; no corrosion, no impact on the environment and, if regular hull cleaning is carried out, fuel savings of up to 50% can be achieved. ■

**Wash it  
when fouled**

**ECOSPEED®**  
SHIP HULL PERFORMANCE TECHNOLOGY

# Underwater cleaning equipment

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.

## 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 while still obtaining the desired results.

## MC131

The MC131 is a compact unit designed for cleaning all kinds of marine fouling from yachts and smaller ships to offshore oil & gas platforms. The brush rotation speed is adjustable by the diver to achieve an optimum hourly cleaning rate.

## MC212

The MC212 has an enviable track record, with over 20 years of service. It is the most efficient cleaning machine currently available and is highly regarded by the industry internationally. The MC212 is de-



MC111.

signed for cleaning light, medium and heavy marine fouling from ship hulls, offshore oil & gas platforms (concrete or steel), 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.

## 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. The downward pressure of the brushes can easily be adjusted throughout the operation and the heads are self-adjusting to the con-



MC131.

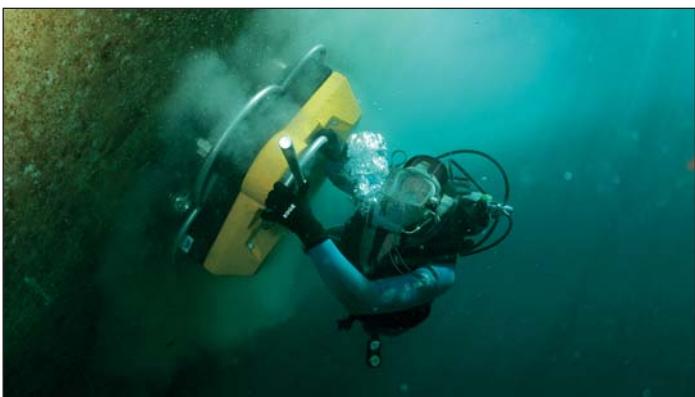


MC212.

tours of the hull. This, coupled with a powerful four-wheel drive system, are major technological breakthroughs in subsea cleaning.

Different types of fouling can be treated with the appropriate pressure and tools so damage is prevented to the underlying paint layers. The

MC313 has a very efficient cleaning record. It is designed for larger ship hulls or other large, reasonably flat surfaces. ■



MC313.



## Ecofix: Corrosion damage repair

**S**ubsea Industries has launched a new 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 damage can cause sev-



*Test plate showing the benefit of an Ecofix and Ecoshield combination.*

re 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 metal facing or very expensive alternative fillers. And because it is part of the Ecospeed/Ecoshield family, it is fully compatible with the coating. ■

# SUBSEA INDUSTRIES



**S**ubsea 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.

**[www.subind.net](http://www.subind.net)**

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