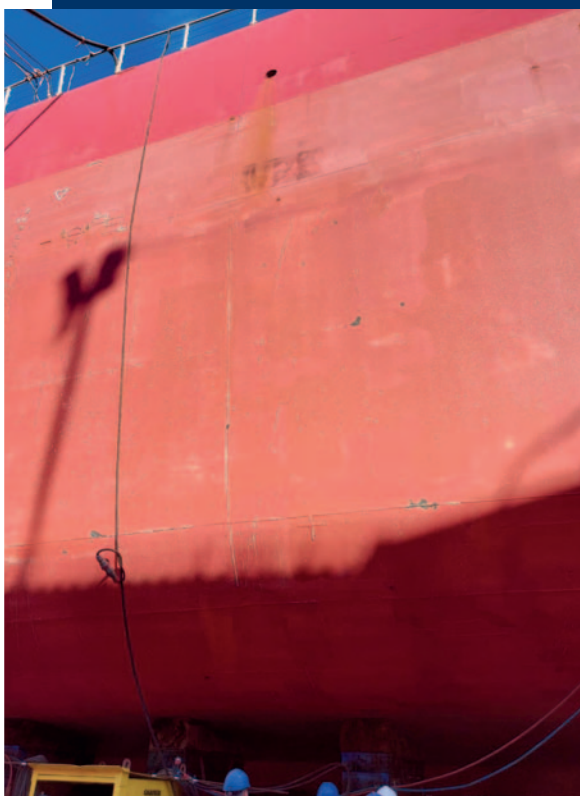
SUBSEA
PROTECTION AND PERFORMANCE

NEWS
LETTER / 227



Only touch-ups needed after 12 years in ice

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.

Subsea Industries NV
+ 32 3 213 5318
info@subind.net
www.subind.net

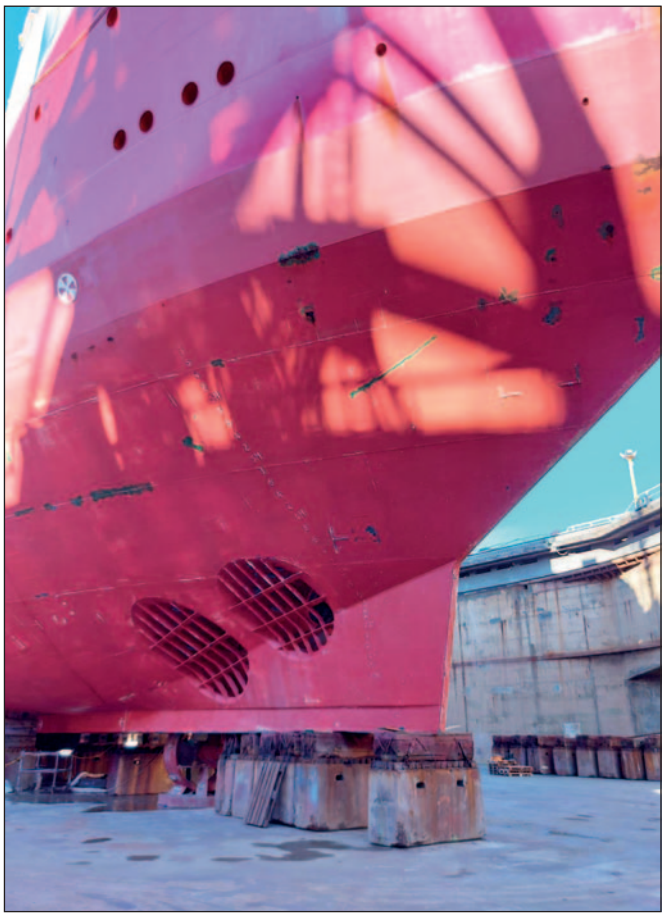
ECOFIX®
CORROSION REPAIR

No need to replace Ecospeed after twelve years in ice

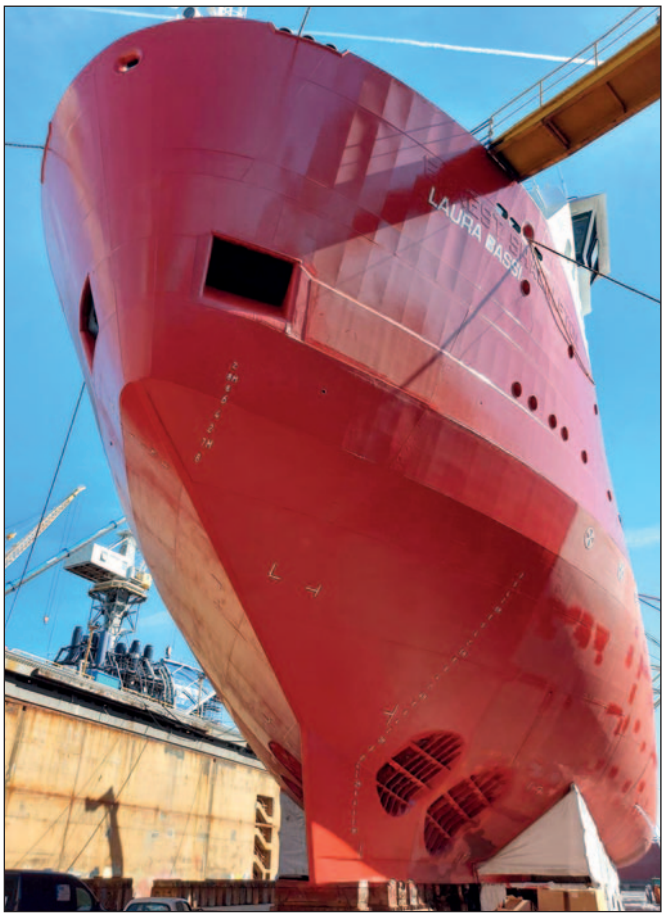
When icebreaking research vessel *Laura Bassi* docked in Italy earlier this year, only touch-ups were applied to the underwater hull coating. Even though the hull was originally coated with Ecospeed twelve years ago, there was no need for a full repaint. A truly remarkable result that further reinforces Ecospeed's ability to withstand the harshest ice conditions for years on end.

Back in 2009 when the coating was first applied, the ship was still called *Ernest Shackleton*. It was built in 1999 as the *Polar Queen* and was deployed in the Antarctic before

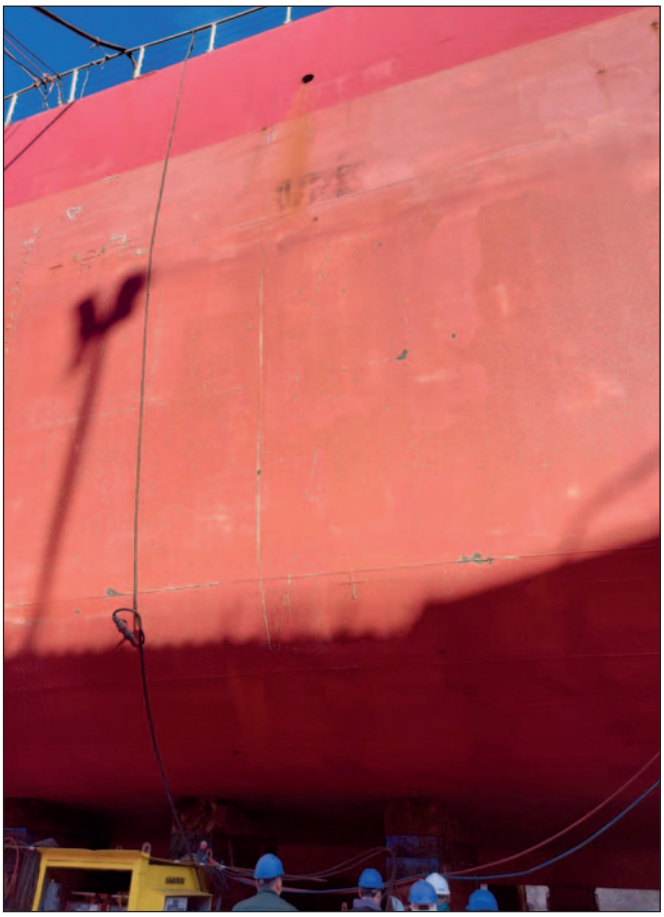
RV Laura Bassi *returning from her first Arctic campaign during which the ship encountered quite a few icy areas.*



Minor touch-ups were needed only on those areas that face the largest impact of the anchor, its chain and the ice.



Application of touch-ups is simple and fast.



The coating on the vertical sides still looks amazing, even 12 years after application.

The rudder was coated with Ecoshield and is in the same remarkable condition as the rest of the vessel.

In ten seasons operating RRS Ernest Shackleton *with Ecospeed coating, BAS had to touch up Ecospeed only in areas of mechanical damage and carry out minor repairs around the bow.*

Application of Ecospeed on Ernest Shackleton *in Denmark.*

being acquired and renamed by The British Antarctic Survey (BAS) in 1999.

In ten seasons operating *RRS Ernest Shackleton* with an Ecospeed coating, BAS had to touch-up Ecospeed only in areas of mechanical damage and carry out minor repairs around the bow, the most susceptible area to ice impact. Based on their experience with the *Ernest Shackleton* and sister vessel *James Clark Ross* (coated in 2015), BAS selected Ecospeed for the newbuild polar research ship *Sir David Attenborough*.

Different name, same lasting protection

OGS (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale) acquired *Ernest Shackleton* in 2019. They renamed her *Laura Bassi* in honor of the first woman to earn a professorship in physics at a university and the first woman in the world to be appointed to a university chair in a scientific field of studies.

RRS Ernest Shackleton *in Antarctic ice up to 2.5 m thick.*

After its first Antarctic mission for OGS the ship is still protected by the Ecospeed coating as it has been for the last 12 years. Mr. Rosario Martino, Naval Architect & Marine Engineer for the vessel's ship managers, ARGO s.r.l. said: "It was impressive to see the Ecospeed paint in an excellent condition even after so many years of service. We have performed only touch-ups in the bow area affected by the impacts with the ice layer."

He added: "When *Laura Bassi* returned from her first Arctic campaign, during which she encountered quite a few icy areas, it was clear that the Ecospeed paint did its job impeccably."

Conclusion

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.

Ecospeed will hold up and will not be damaged in the ice and so will remain smooth for the life of the vessel. Even if minor repairs are needed in drydock the original quality of the coating remains intact. N/R *Laura Bassi* is a great example of this. We are proud to have protected the vessel for the last 12 years and will continue to do so for many years to come. ■

Contact us for more information or an estimate for Ecospeed for your ice-going ships.
+32 3 213 53 18
info@subind.net

Ecospeed defined

The purpose of Ecospeed is to offer a long-lasting, non-toxic protection for all ship hulls and to provide a system that keeps a hull very smooth and free of fouling for the service life of the vessel with minimal repair and no replacement. Instead of using chemicals to try to kill and repel marine fouling organisms, Ecospeed uses a hard, impermeable, impenetrable coating along with manual removal of fouling at an early stage.

Ecospeed offers a cost-effective and environmentally-acceptable approach to hull protection and anti-fouling.

The technology can be broken down into three parts:

1. Coating

Ecospeed is a glassflake reinforced resin coating that is impermeable, impenetrable, long-lasting, inert and non-toxic. The coating is applied in two coats each of 500 µm dry film thickness (DFT) to a properly prepared hull, either at new build or in drydock for an in-service vessel. It works equally well on steel, aluminum or GRP. A minimum of about 3 hours is required in between coats and there is no maximum overcoat time. This coating has extraordinary adhesion and bonding qualities. It is very tough and resistant to abrasion. It is also flexible and remains firmly bonded to the plates even when these flex considerably.

2. Fast and easy cleaning

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.

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 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.

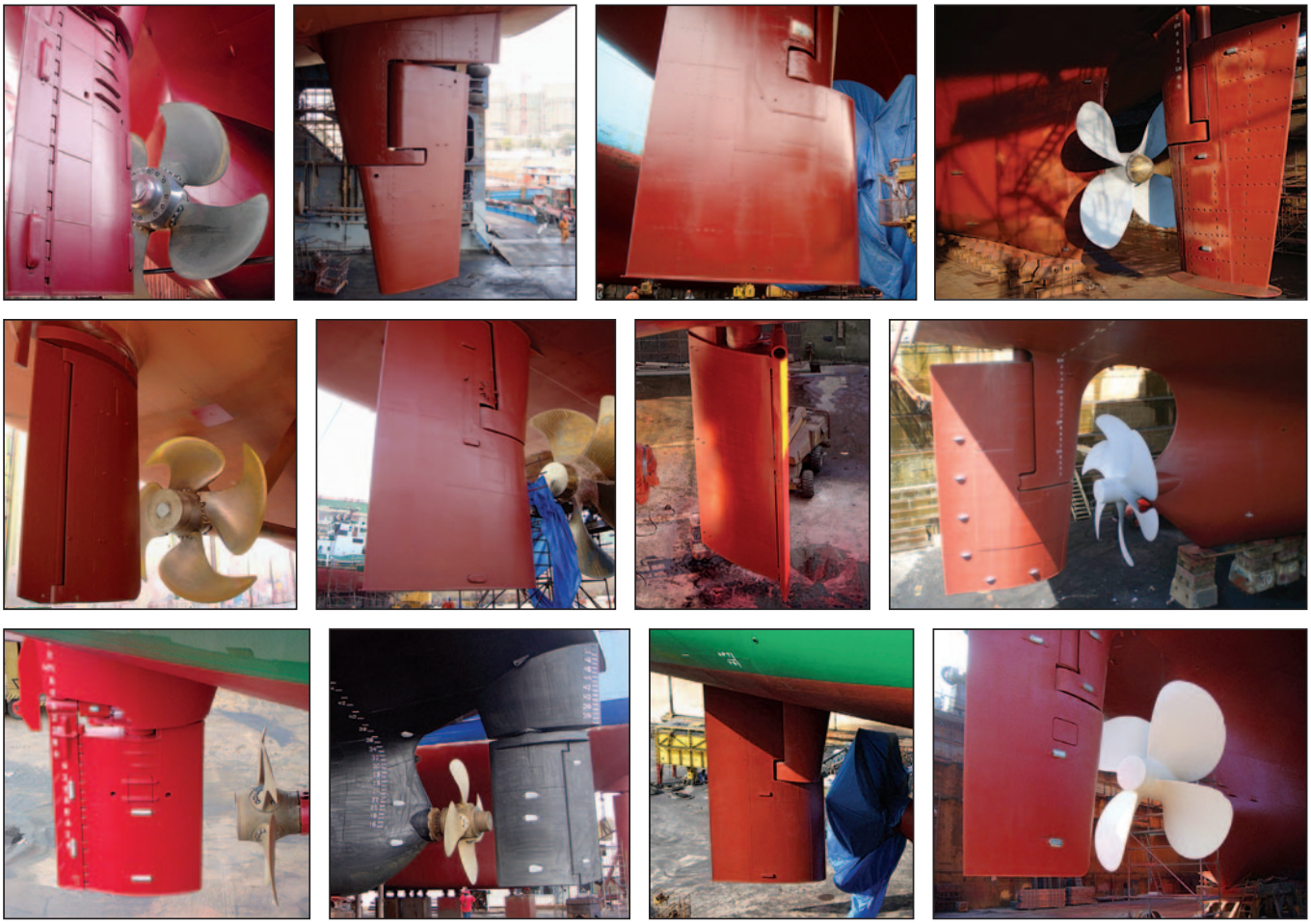
By optimizing hull surface friction and using the best possible surface hydrodynamic characteristics, fuel savings over the lifetime of the ship are most often found to be in the 20-40% range. In contrast with AF compounds that rapidly degrade over time, our coating lasts. Therefore the performance of the ship does not degrade either.

3. Minor touch-ups in drydock

The coating is expected to last the full service life of the ship without need for replacement or any major repair. Mechanical damage such as that caused by collision or anchor chain abrasion, or by welding on the hull can easily be touched up during routine drydocking. Because the coating consists of a single, homogenous layer, any repair or touch-up easily blends in without any difficulty. The integrity of the hull coating is maintained despite such repairs. Because no repaint is needed, several days and up to a week can be saved in drydock times during each visit.

The coating alone provides superior hull protection, but it is the full Ecospeed technology that results in the major fuel savings. ■

LASTING PROTECTION



Ecoshield 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 drydock followed by a full repainting, again and again.

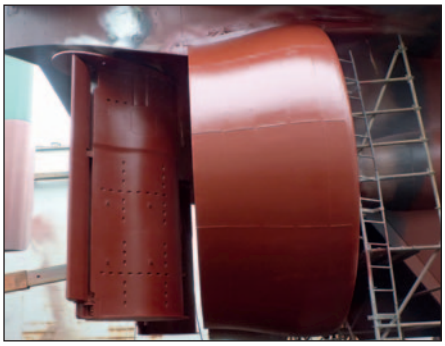
With an Ecoshield application no full repaint will be needed during drydocking. Ecoshield is guaranteed for ten years. At the most, minor touch-ups will be required.

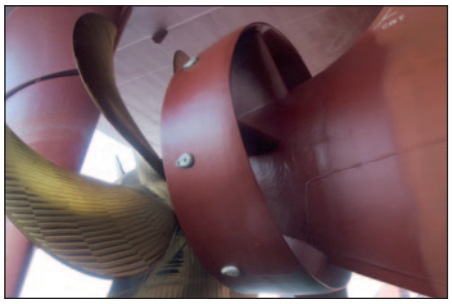
Subsea Industries NV
+ 32 3 213 5318
info@subind.net
www.subind.net

ECOSHIELD®
ULTIMATE PROTECTION

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.

www.subind.net

Subsea Industries NV
+ 32 3 213 5318
info@subind.net

12/21