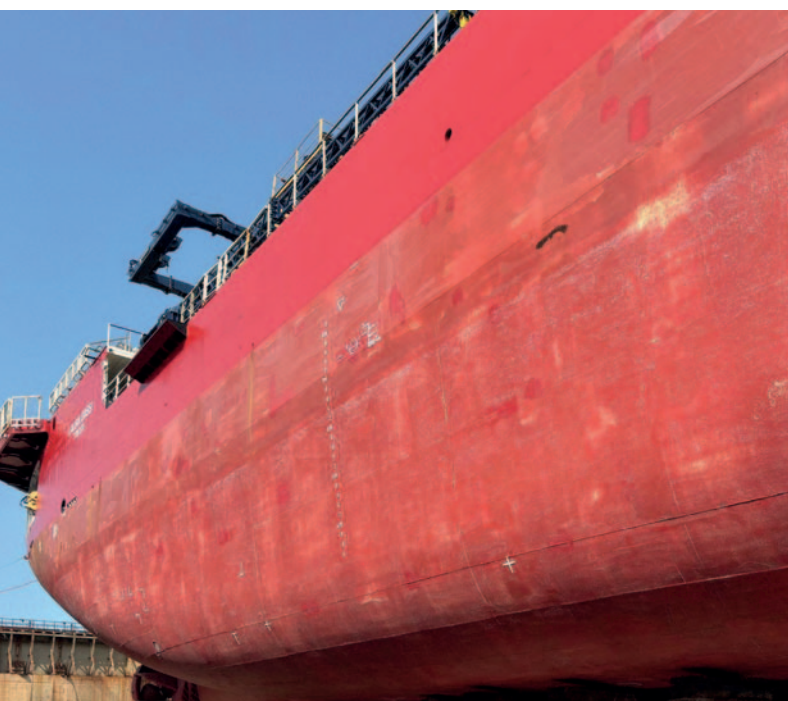




Ecospeed after 16 years on ice breaker



Ecospeed after 10 years



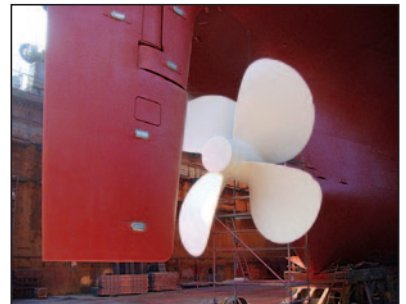
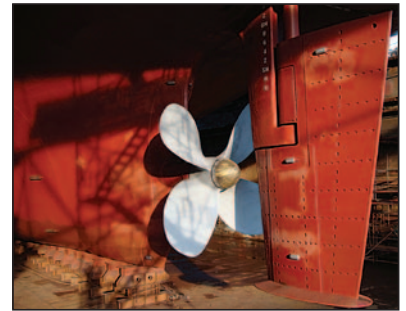
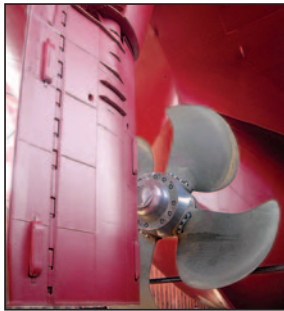
Ecospeed after 13 years



Ecospeed after 11 years

**From repainting to repair:
rethinking the lifetime of a marine coating**

SAY GOODBYE TO CAVITATION DAMAGE



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 dry-dock 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.

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ECOSHIELD®
ULTIMATE PROTECTION



From repainting to repair: rethinking the lifetime of a marine coating

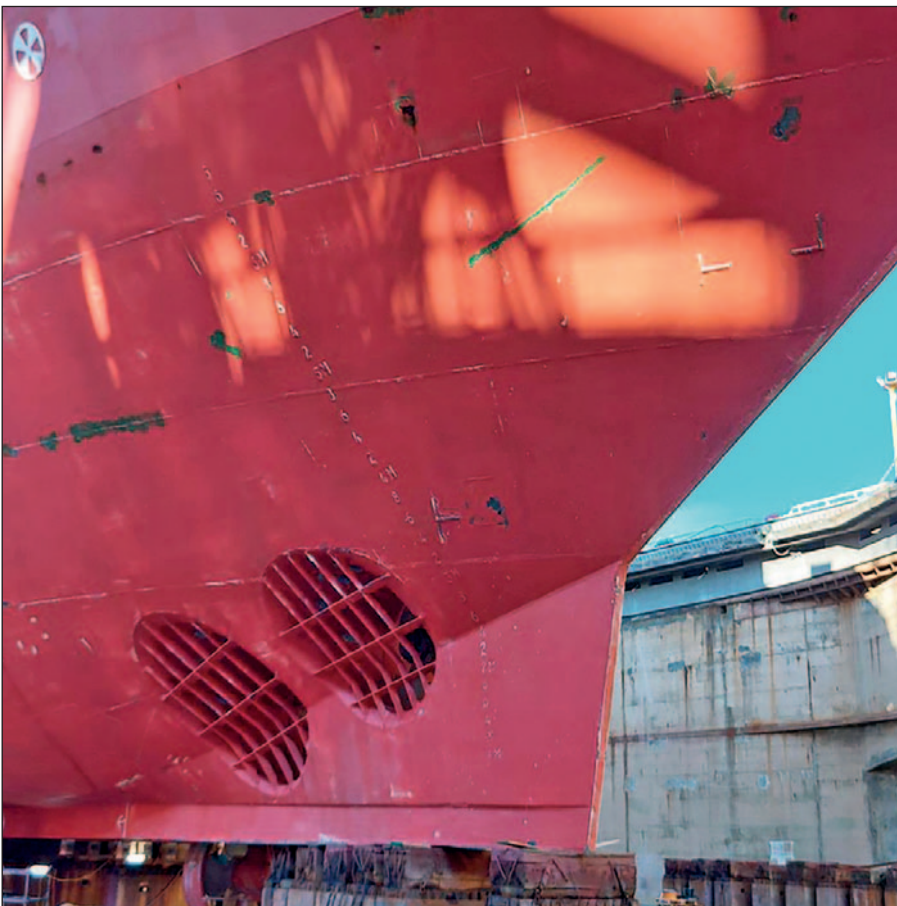
For decades, repainting has been accepted as a normal part of ship maintenance. A coating is applied, it performs for a number of years and, once it has deteriorated sufficiently, large areas are prepared and coated again.

But does a marine coating necessarily have to be treated as a consumable?

Not if the right coating is chosen from the start.



The coating on the vertical sides of the icebreaking research vessel Laura Bassi still looked amazing 16 years after first application.



During dockings minor touch-ups are only needed on those areas that suffered mechanical damage from the anchor and anchor chain.

A repair-based maintenance strategy is only possible when the coating itself is designed to remain firmly attached, retain its protective properties and accept local repairs over the long term. Many conventional coating systems do not meet those requirements. Some gradually wear or deplete as part of their function, while others eventually deteriorate to the point where large-scale preparation and recoating become unavoidable.

The choice between repeated replacement and long-term repair therefore begins when the coating system is selected.

The conventional coating cycle

Marine coatings operate in a demanding environment. They are exposed to seawater, abrasion, impact,



No repaint or touch-ups were required on this workboat after 10 years of sailing with Ecospeed.

fouling, cleaning and, in some applications, severe cavitation or ice abrasion. Damage can also occur during normal vessel operations or as a result of hot work carried out on the hull.

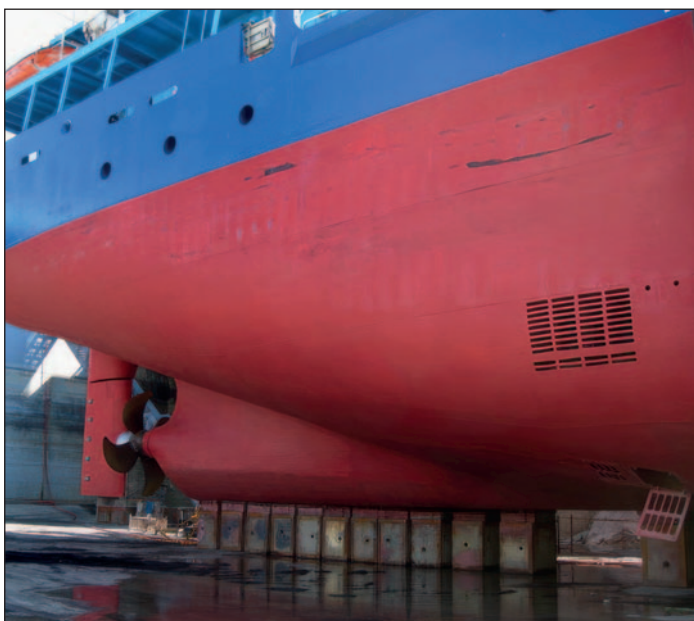
With many conventional coating systems, maintenance involves more

than repairing isolated damage. Ageing or depleted layers need to be renewed, and considerable areas may require surface preparation and recoating during drydock.

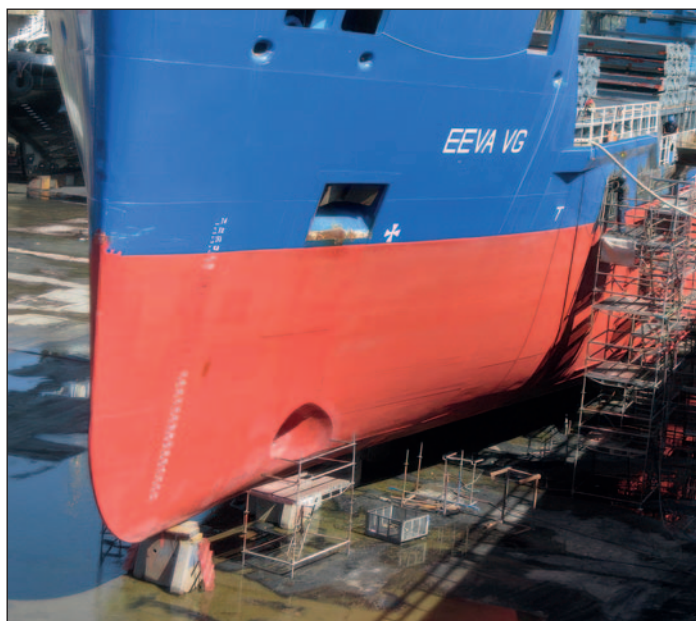
This means coating maintenance becomes a recurring cycle of repair, replacement of topcoat and eventu-

ally replacement of the entire coating scheme.

Breaking that cycle requires more than simply deciding to repair instead of repaint. It requires a coating capable of remaining in service long enough for that approach to work.



Ecospeed five years after application on m/s Eeva VG.



Only very minor touch-ups were required.

Repair what is damaged, retain what is sound

A repair-based maintenance philosophy focuses instead on the actual condition of the coating. Areas that remain intact stay in place. Where mechanical damage has occurred, only those areas are prepared and recoated.

But this approach depends on the coating. If the surrounding material is wearing away, losing adhesion or reaching the end of its functional life, repairing individual damaged areas does not solve the underlying problem. Eventually, the larger coating system still has to be replaced.

This makes durability and repairability important considerations when selecting a marine coating. Along-side corrosion protection, application cost and expected performance, owners should ask: Will this coating remain on the vessel long enough to be maintained rather than replaced?

A different approach to dry-dock maintenance

When the answer is yes, the benefits during drydocking can be significant.

Extensive blasting, surface preparation and repainting require labour, coating material and valuable time in the dock. A durable coating that only requires minor repairs greatly reduces the labor and cost in drydock.

There is an important environmental consideration as well. Many conventional antifouling coatings contain biocides and other substances that are harmful to the marine environment. When these coatings are removed during blasting, scraping or



Ecospeed is applied in only two layers, no repaint will be needed during future dockings.



The Umiak I in 2024, showing no ice damage whatsoever three years after Ecospeed was applied to the hull.

cleaning, the resulting paint particles contain the same harmful substances. In practice, containment is not always effective and material can enter surrounding waterways.

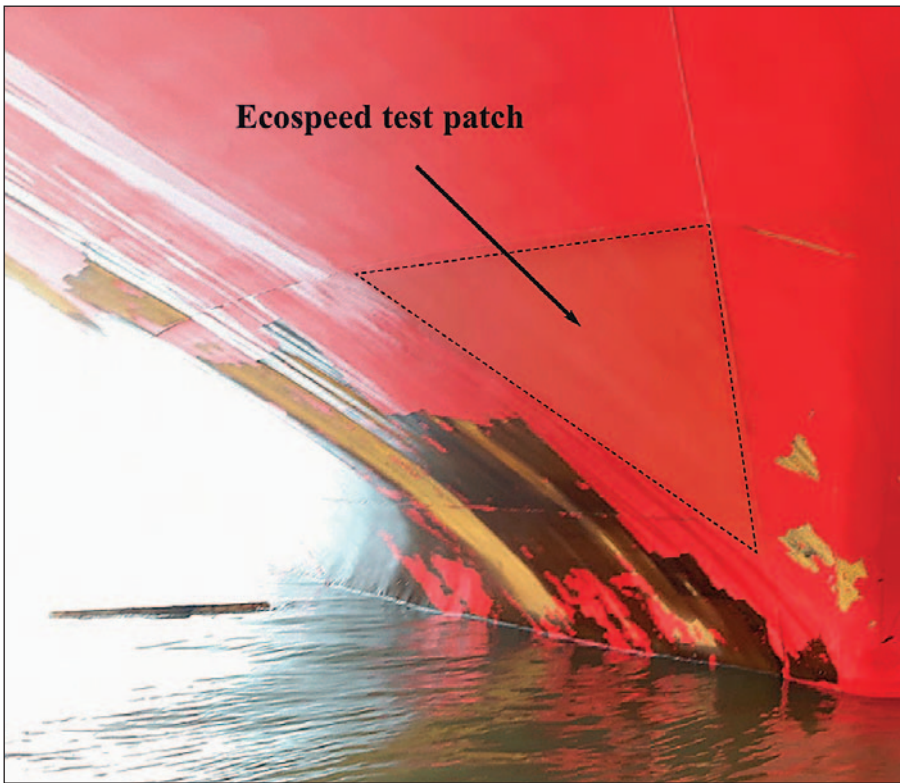
Ecospeed is fundamentally different. It contains no biocides and does not leach toxic substances into the water. Even if the coating itself were to be removed, the resulting material would not present the same toxic contamination risk associated with

conventional antifouling coatings. Its long service life also takes away the need for repeated coating replacement, meaning less paint consumption, less blasting and less waste over the vessel's lifetime.

A coating designed to stay

Its durability and ease of repair are central to Ecospeed.

Ecospeed is applied in two layers



One of the test patches applied to the bow area of the Umiak I shown here 5 years after application in excellent shape compared to the existing hull coating.

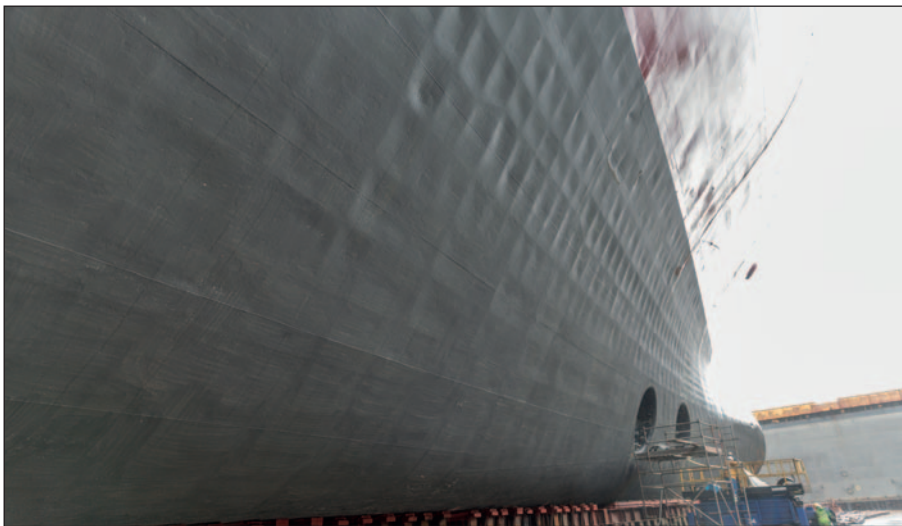
as a homogeneous coating system and is designed to remain firmly attached rather than gradually being sacrificed or replaced. When mechanical damage does occur, the affected area can be prepared and new Ecospeed applied while the surrounding sound coating remains untouched.

The objective is therefore not to repaint the entire hull at regular intervals. The coating itself is intended to stay in place, with local repairs carried out only where necessary.

Long-term service experience illustrates the principle. On vessels operating in particularly demanding conditions, including ice-going ships, inspections have shown that



The Ocean Sept-Isles in drydock three years after Ecospeed was applied.



The hull of the Oceanex Sanderling with the original Ecospeed coating intact after 11 years of sailing in very harsh conditions in Nova Scotia.



Application of Ecospeed is very flexible and can be adapted to the yard's schedule.

Ecospeed stays on the hull and the minor mechanical damage which inevitably occurs is very easy to repair. In the case of the Antarctic research vessel, *Laura Bassi*, formerly the RRS *Ernest Shackleton*, for example, the original Ecospeed coating is still on the hull after 18 years. Mechanical damage has been very easy to repair.

Rethinking coating lifetime

The useful question is therefore not simply: How many years will this coating last before it needs repainting?

A better question is: What coating will last the life of the vessel without needing to be replaced?

For owners who want to move from repeated replacement to condition-based repair, that decision has to be made before the coating is applied. Choose a coating that is intended to stay on the vessel, and the maintenance philosophy can change with it.

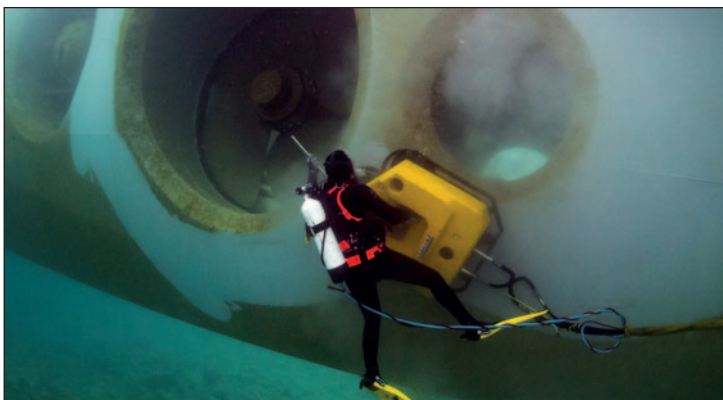
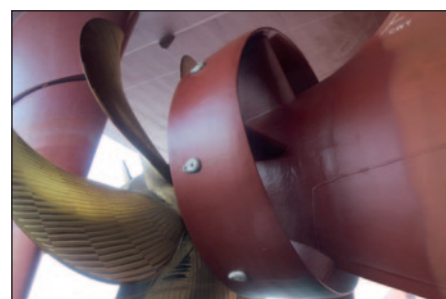
Instead of repeatedly removing and replacing the coating, repair only what is damaged and allow the rest to keep doing its job.■



The British Antarctic Survey Royal Research Ship Sir David Attenborough on its maiden voyage to Antarctica. Its hull is protected with Ecospeed. (Jamie Anderson – British Antarctic Survey).

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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