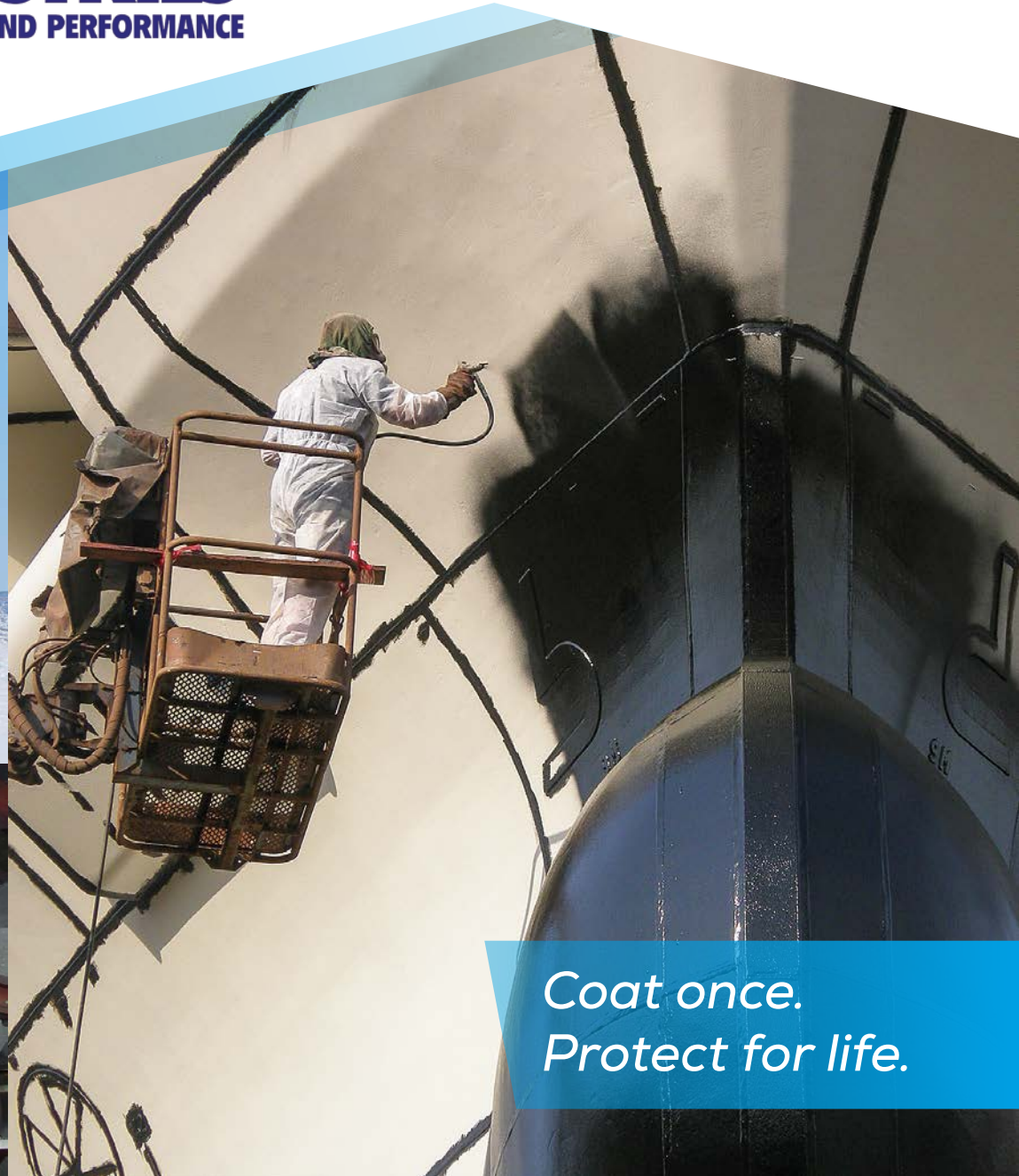


SUBSEA INDUSTRIES

PROTECTION AND PERFORMANCE

Coatings for maritime
and offshore industry



*Coat once.
Protect for life.*

Introduction

Corrosion is one of the most significant challenges faced by ships and offshore structures. It leads to costly maintenance, unscheduled downtime, and early asset replacement. To combat this, our coatings offer advanced protection against corrosion, cavitation, and abrasion, ensuring the longevity of your assets.

Our coatings – Ecospeed, Ecoshield, and Ecolock – share a unique, glass-platelet reinforced vinyl ester formulation that guarantees exceptional performance and environmental safety. Ecofix, a complementary solution, helps repair damaged surfaces, ensuring seamless integration with the primary coatings.



Trusted by

We are proud to have the trust of industry leaders and major companies around the globe, including:



These respected companies rely on our coatings for long-lasting protection and enhanced asset performance in the most demanding conditions.

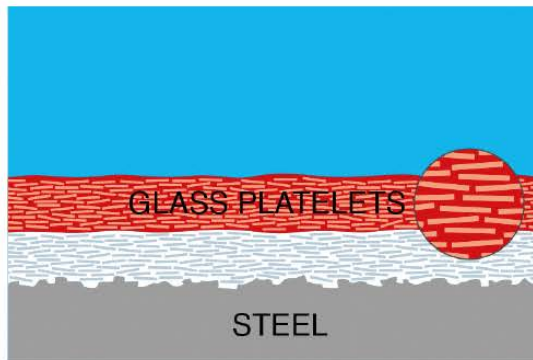
Shared characteristics of the coatings

All of our coatings—Ecospeed, Ecoshield, and Ecolock—share remarkable characteristics that make them the top choice for marine and offshore applications:

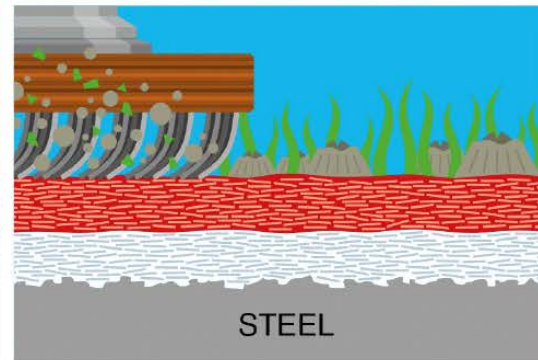
- **Glass-platelet reinforced technology:** Enhances durability and wear resistance.
- **Long-lasting protection:** Provides years of protection with minimal maintenance.
- **Non-toxic:** Environmentally safe for marine life.
- **Minimal maintenance:** Minimal touch-ups ensure a long service life without the need for full recoating.
- **Easy application:** Applied directly to prepared bare steel. No primer. 2 or 3 coats of 500µm each form a single, homogeneous protective barrier.
- **No anodes:** Eliminates the need for cathodic protection.
- **Cleanable:** Can be cleaned in the water as aggressively and as often as needed without risk of damage. Any degree of fouling can easily be removed.

Warranty information

Ecospeed	2-layer application	10 years
	3-layer application	15 years
Ecoshield	2-layer application	10 years
Ecolock	2-layer application	20 years
	3-layer application	35 years



Two identical layers applied on the prepared surface make an impermeable barrier.



All types of marine fouling can be removed completely.



Cleaning leaves no trace and restores the coating to its original condition.



Case study

In 2019, Eckerö Group applied Ecospeed coating to the open cargo deck of the M/S Finbo Cargo ferry to protect it from cargo damage. After one year of excellent results with no coating failures, they expanded Ecospeed's use to the hull and ice belt, especially after upgrading to Ice Class for Baltic Sea operations. Ecospeed proved highly durable against ice and wear, required only minor touch-ups, and allowed flexible application scheduling, making it a cost-effective, long-term solution for corrosion and mechanical protection.

Ecospeed is a high-performance coating designed to protect underwater hulls from corrosion and wear. Its unique formulation is based on glass-platelet reinforced vinyl ester, ensuring superior abrasion resistance and enhanced fuel savings.

Benefits

- **Corrosion protection:** Offers long-term protection against corrosion in harsh marine environments.
- **Fuel savings:** Reduces drag and fuel consumption, providing significant savings.
- **Chemical resistance:** Resists damage from chemicals.
- **Environmental safety:** Non-toxic and environmentally safe for marine life.
- **Easy maintenance:** Requires less frequent maintenance, saving both time and money.
- **Abrasion-resistant:** So much so that it is class-approved and proven as an ice-abrasion resistant coating (PC1-PC7) for ships operating in polar regions.

"The biggest thing was the surprise at seeing the areas where you'd expect it to have taken a lot of damage. I then jokingly asked the question, 'Are you sure you've taken this ship to the ice?'"

*Stephen Lee,
Senior Marine Engineer, British Antarctic Survey*



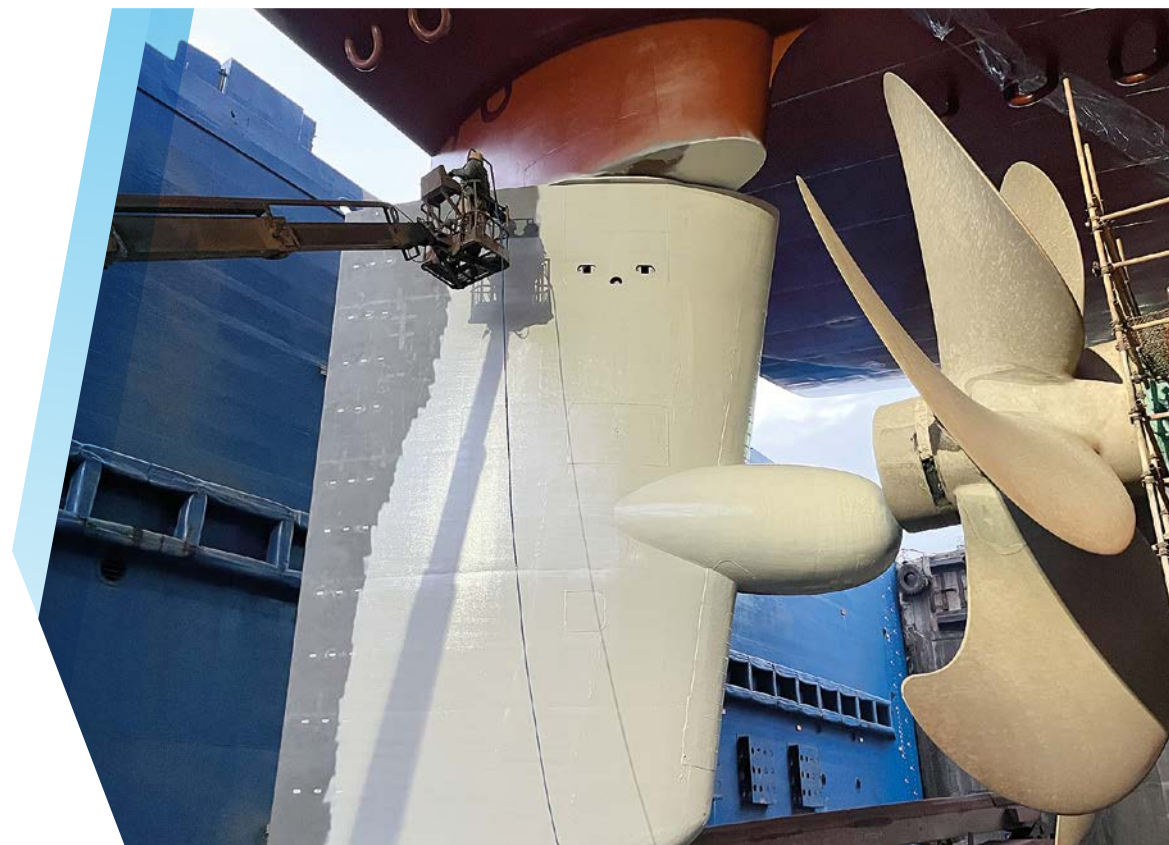
Ecoshield is engineered to protect rudders, kort nozzles, thruster tunnels, stabilizers, and other high-wear areas on ships and offshore assets. It shields these critical components from cavitation, corrosion, and abrasion.

Benefits

- **Cavitation resistance:** Exceptional resistance to cavitation erosion.
- **Long-lasting performance:** Reduces the need for frequent repairs and recoating, extending asset life.
- **Durability:** Withstands extreme wear and tear from both mechanical forces and harsh environments.
- **Bulbous bow protection:** Ecoshield is increasingly in demand for bulbous bow applications, offering reliable protection for these high-stress areas.
- **Chemical resistance:** Resists damage from chemicals, making it perfect for scrubber installations, including scrubber recycle tanks, scrubber pipes, and overboard discharge areas.

“After high pressure washing in drydock we saw that no repair of the Ecoshield was needed on rudders that were coated 9 or 10 years ago... Compared with conventional coatings, we save somewhere between one and three days in drydock per ship... We are planning to apply Ecoshield on the rudder blade, bow thruster tunnel, energy saver and also the scrubber outlet on all our upcoming newbuilds.”

Emilian Jianu,
Coating Performance Specialist, Seaspan



Case study

Pleiades Shipping Agents, a well-established Greek tanker operator, faced ongoing rudder and propeller duct erosion due to cavitation on their Panamax sister vessels. In 2013, they applied Ecoshield to the rudder of the MT Evrotas and, after excellent long-term results, extended the coating fleet-wide. The durability of Ecoshield eliminated the need for repeated repairs and significantly reduced drydock time and off-hire costs, proving to be a cost-effective and lasting solution for protecting running gear against cavitation damage.



Case study

To protect the hull of the groundbreaking Tango FLNG, EXMAR applied Ecolock, a long-lasting, non-toxic glassflake coating designed for extreme durability and 15+ years of service without drydocking. Operating offshore, the unit required a solution that could withstand heavy biofouling, allow regular underwater cleaning, and meet strict environmental and inspection standards. Ecolock met all these criteria, offering corrosion protection, ease of maintenance, and no harm to the marine ecosystem. The fast and efficient application process also impressed the shipyard, significantly reducing labor time and costs. Following the success of this project, EXMAR used Ecolock again on its next vessel, now operating as Eemshaven LNG, confirming the coating's value for long-term offshore operations.

Ecolock is designed for offshore environments, offering protection against corrosion in harsh conditions like ice and fender abrasion. It is ideal for offshore structures and floating units.

Benefits

- **Long-lasting:** Guaranteed for up to 35 years; will last the life of the hull.
- **Long-term durability:** Ecolock requires minimal maintenance over extended periods.
- **Non-toxic:** Safe for both users and the environment.
- **Enhanced protection:** Perfect for offshore structures, wind farms, and oil rigs exposed to extreme conditions.
- **NORSOK M-501:** Superior grade coating.

"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."

Jan Bakke,
Senior Superintendent, Wilhelmsen



Ecofix is ideally suited for treating pitting caused by cavitation and corrosion in critical areas such as the leading edge of rudders, bow thruster tunnels, and the bow area of icebreakers where the hull is exposed to extreme mechanical forces. Additionally, it can be used to fill slot welds on newbuild rudders to ensure a smooth and uniform surface before coating. Its strong adhesion, durability, and seamless compatibility with Ecospeed, Ecoshield, and Ecolock make it an essential part of advanced hull protection and maintenance systems.



The rudder of this ro-ro vessel was given the full treatment in Munkebo, Denmark. First Ecofix was applied to restore the surface of the damaged rudder back to its original condition. Next it was coated with Ecoshield. This will protect the rudder from ever suffering corrosion and cavitation damage again.

Benefits

- **Seamless repair:** Restores the integrity of corroded or damaged surfaces before applying the coating.
- **Compatibility:** Designed for maximum adhesion with our coatings.
- **Easy application:** Can be applied directly to corroded surfaces, saving time and reducing the need for extensive repairs.



Ecofix is also suitable for thruster tunnels and other parts of the underwater ship that need special protection from corrosion. Now these items can also be repaired prior to recoating when other, less effective coatings have permitted corrosion and cavitation damage to occur. For this reason, the corrosion damage in the thruster tunnel of this container vessel was repaired in Rotterdam with Ecofix before Ecoshield was applied.



Application areas for each coating

- Ecospeed** • Hulls of vessels, including icebreakers, bulk carriers, and tankers.
 - Cargo and main decks of vessels.
- Ecoshield** • Rudders, Kort nozzles, thruster tunnels, and energy saving devices.
 - High-wear areas on the ship's running gear.
 - EGCS-scrubber areas like overboard pipes, discharge areas, and recycle tanks.
- Ecolock** • Offshore and stationary structures.
 - Floating units that require long-term protection without maintenance.
- Ecofix** • Repair applications on hulls, rudders, and running gear.

Additional benefits

- **Quick to apply:** All coatings can be applied rapidly, ensuring minimal downtime for your vessels and offshore structures.
- **Minimum overcoat time:** The coatings feature a minimum overcoat time of just 3 hours, allowing for faster project completion.
- **Easy to repair:** There is no maximum overcoat time, meaning that spot repairs can be easily done in the future without the need for full recoating.

Application process

Surface preparation:

- Grit blast the surface (steel, aluminum, or GRP) to SA 2.5 cleanliness and a 75 µm profile.

First coat application:

- Apply the first coat using airless spray equipment to a DFT of 500 µm.
- Minimum overcoat time: 3 hours (no maximum overcoat time).
- Apply a second and, if needed, a third coat in the same manner.

Final coating layer:

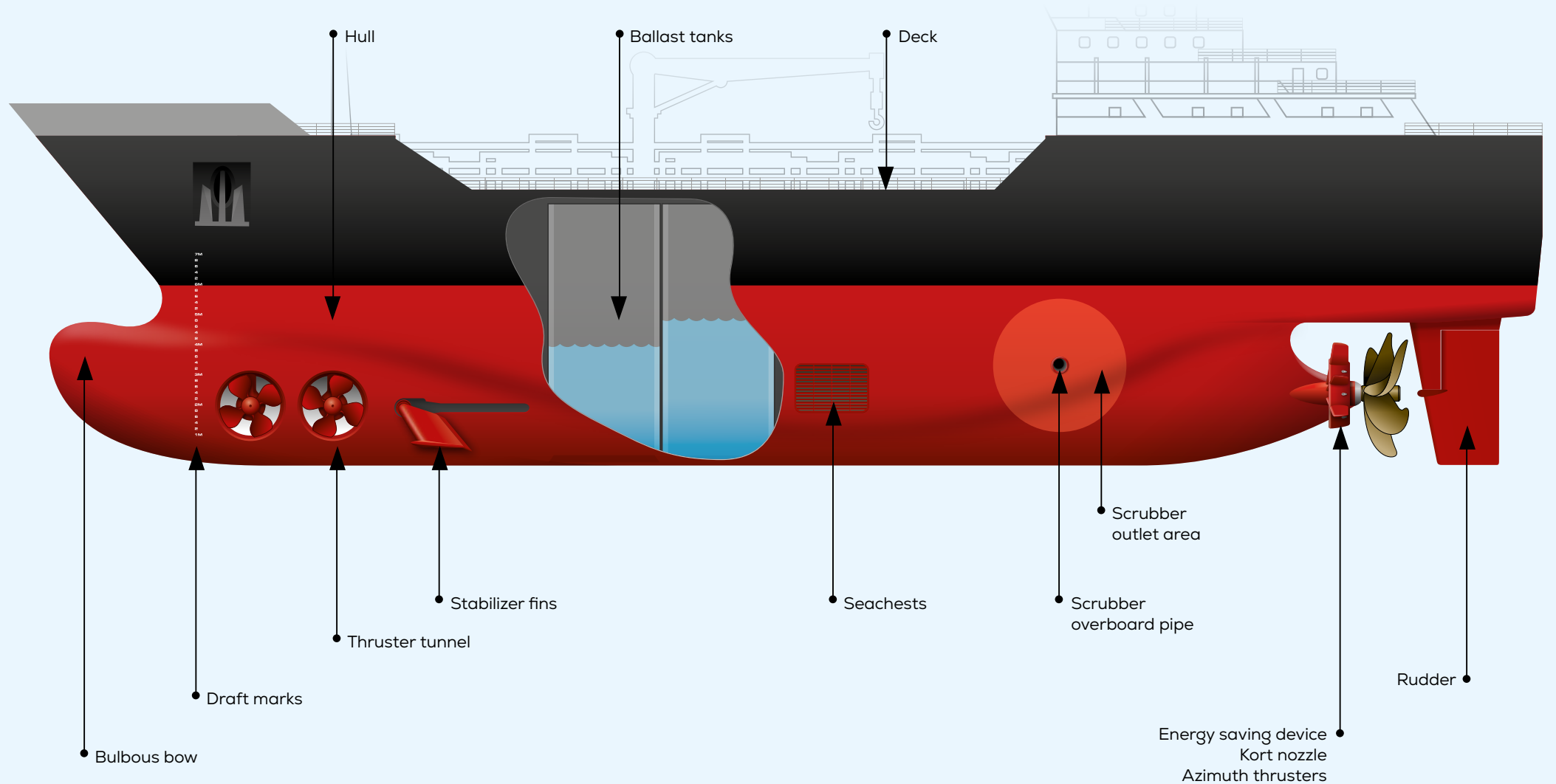
- After applying the necessary coats, a homogeneous protective layer is formed.
- The coating is ready for immersion in 24 hours after the final coat.

No special equipment or skills required:

- Standard airless spray equipment is used.
- A qualified Subsea Industries inspector is available to assist during the application process.



Protect your ship with Subsea Industries





Our coatings offer unparalleled protection for a wide variety of maritime and offshore applications, extending asset life, reducing downtime, and saving costs on maintenance.

By choosing Ecospeed, Ecoshield, Ecolock, and Ecofix, you're investing in long-term performance and peace of mind.

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