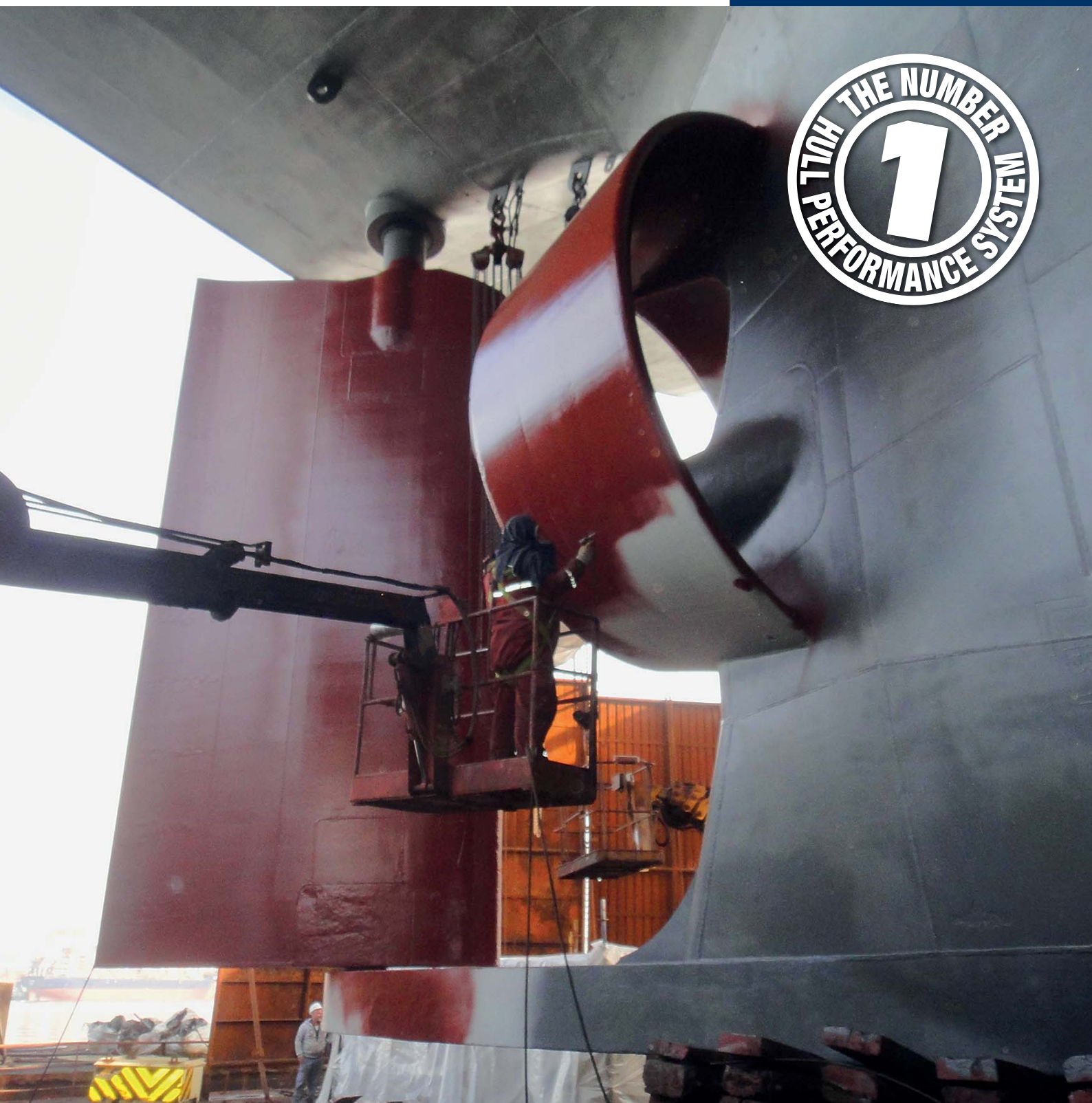


# ECOSPEED®

SHIP HULL PERFORMANCE TECHNOLOGY

# NEWS

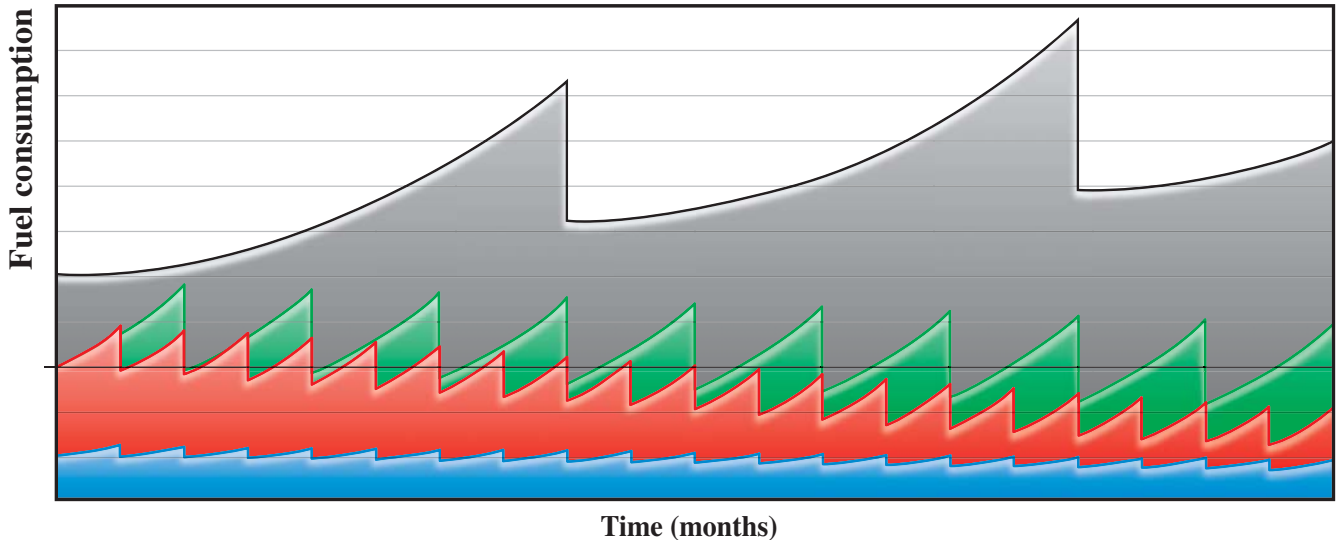
L E T T E R



Customers return for more Ecoshield applications..... 3

# Millions in fuel savings

Development of additional fuel consumption over time



- Ecospeed with 2 cleanings per year
- Ecospeed with 4 cleanings per year
- Ecospeed with optimum cleaning intervals
- Active antifouling paints

**M**ost ships sail with a chartering contract that includes a penalty clause if fixed distance/fuel consumption ratios are not met. However, this is unpredictable with regular paint systems and will also worsen over the years. The ship becomes more expensive and profits are reduced.

The protective Ecospeed ship hull performance technology however

not only keeps the ship's performance stable but even improves it with repeated underwater maintenance. The coating is designed to be cleaned routinely with specially designed underwater hull cleaning tools. These simultaneously clean and improve the smoothness of the paint surface. This avoids penalties as well as producing enormous fuel savings.

One major cruise line has been quoted

as saying that they are saving 10% on fuel costs with Ecospeed compared to the earlier TBT coating which they replaced. Another cruise ship found that they gained 1.5 knots over sea trials speed when they replaced their hull coating with Ecospeed.

Contact us to find out how Ecospeed can help you achieve major fuel savings.

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# Customers return for more Ecoshield applications

**O**ver the last two months the rudders of several types of vessels were given an Ecoshield protective coating at yards in China, Singapore and Poland. A number of container vessels, oil tankers and ro-ro vessels, all belonging to different owners were treated. All of these owners were returning customers.

They had experienced firsthand the devastating effect of cavitation on rudders coated with a traditional coating system. For this reason they decided to use Ecoshield to ensure lasting protection against corrosion and erosion damage for the rudders of their vessels for the remainder of their service life.

Before Ecoshield was launched, the problem of cavitation damage to rudders remained unsolved. Cavitation caused erosion, pitting and sometimes complete failure, necessitating very expensive repairs or replacement. The need for repair to rudders, involving welding and resurfacing in drydock has been almost universal. The cost of rudder maintenance and the safety hazards connected with worn and failing rudders are out of proportion to the relatively small surface area involved. Efforts to solve this problem have taken the form of redesigning the rudder, changing its position relative to the propeller, trying various materials including stainless steel, metal facing the surface, cathodic protection and a variety of coatings. But the problem has persisted.



*Severe cavitation damage on rudder prior to Ecoshield application.*

Ecoshield puts an end to these problems. The coating is a specially reinforced version of the well-known Ecospeed non-toxic underwater ship hull coating which is designed for the entire underwater hull of any ship or boat. Small but significant variations of the Ecospeed formula have been tested on rudders since 2002 with extraordinary results. Ships that were experiencing heavy cavitation damage to their rudders have seen no further cavitation damage erosion once the

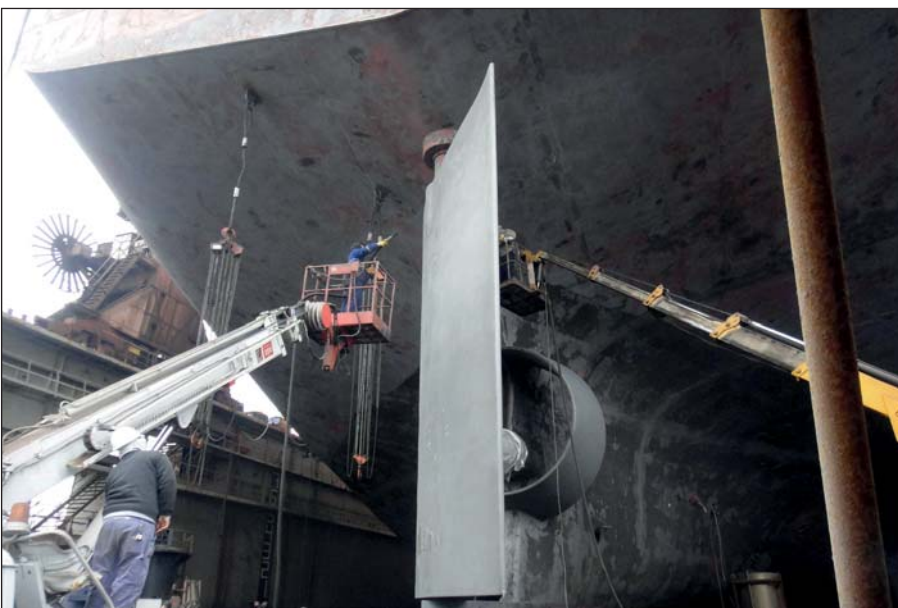
glassflake coating was applied. Some of them have been sailing for as long as 10 years after application with no sign that the coating will need replacement during the life of the ship.

## **Protection from day one**

Protection of the running gear of your vessel is best begun at the newbuild phase. When a vessel comes into drydock, maintenance of its stern area, especially cavitation



*Mechanical repairs like this will no longer be required during future drydockings.*



*Surface preparation is done prior to applying Ecoshield.*

damage repair, can take a long time. There are strict procedures concerning blasting, painting, welding and propeller and stern tube seal work. Painting is then assigned to the end of the schedule. As a consequence it may be rushed or not done at all or else prolong the stay in drydock.

With an Ecoshield application one can avoid these problems from day one because the underwater gear will not need to be repainted during future drydockings. Ecoshield will remain intact for the lifetime of the



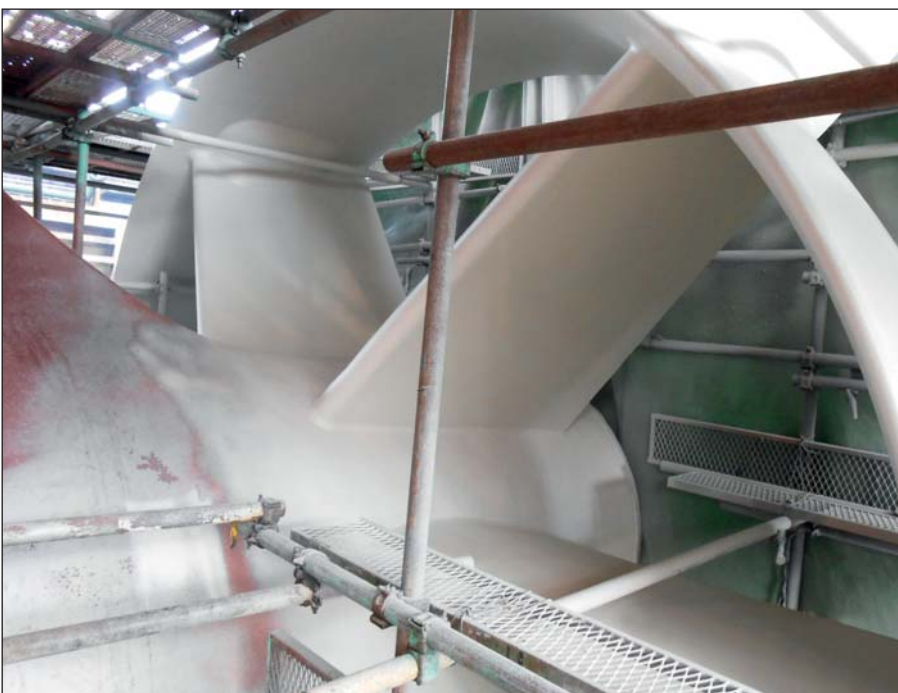
*Application of first layer of Ecoshield.*



*Ecoshield was applied on the nozzles of two container vessels.*



*Ecoshield is applied in only two layers.*



*Propeller enhancement fins and any other running gear can be protected with Ecoshield.*

vessel. It is guaranteed for ten years. At the most, quick and easy touch-ups amounting to less than 1% of the surface area will be required. Planning the maintenance of the vessel's stern area therefore becomes much easier.

The newbuild phase is the perfect time to apply Ecoshield. The coating can however also be used to protect vessels that have been in service for some time and are already facing cavitation and corrosion damage, like the rudders coated over the last months.

Ecoshield's flexibility makes it easy to adapt the application schedule to the rest of the activities scheduled at the shipyard or drydock in a way which does not interfere with them. Overcoating time can be as short as three hours, which means that for smaller surfaces such as rudders or bow thrusters the two coats required can usually be applied in one single day.

### **Lasting protection, lasting savings**

With an Ecoshield application no repaint will be needed during dry-docking. It is the only coating known to fully protect a rudder from all cavitation damage.



*Application of second layer of Ecoshield on nozzle.*



*No repaint will be needed during future drydockings.*



*Ecoshield will protect this rudder for the rest of its service life.*



*All running gear can benefit from an Ecoshield application.*

The smoothness attained by the coating also provides optimum hydrodynamic conditions. This allows rudders to operate at maximum efficiency. The ship's performance therefore remains stable. This brings tremendous savings for the owner.

Besides offering rudder protection, Ecoshield is also suitable for thrusters, azimuth thrusters, azipods, thruster nozzles, kort nozzles, thruster tunnels and other underwater ship gear which needs special protection from corrosion. The extra strength coating protects these areas for the service life of the ship. There is no need for recoating or major repair.

For this reason the nozzles of several of the vessels were also coated with Ecoshield, as was the propeller enhancement fin of one container ship.

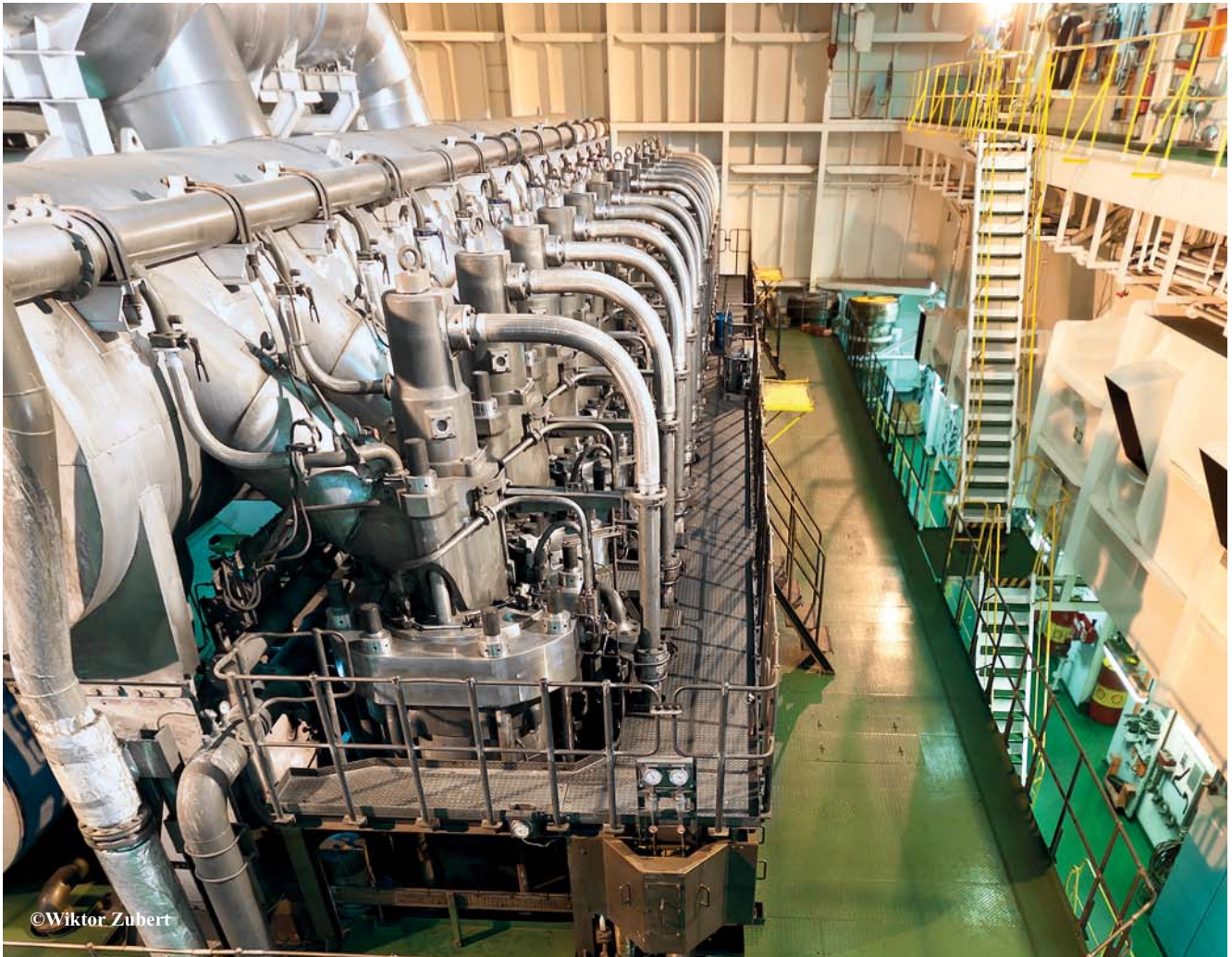
### **Conclusion**

If one takes into account the costs of the temporary underwater repairs and the regular inspections required by a condition of class until the next drydocking, it becomes clear that the investment in a coating system that offers extra protection from day one is very easily won back. For this reason more and more owners have Ecoshield applied on the rudders and other running gear of a large

part of their fleet or have it included in the rudder specs of their newbuild vessels. These owners invest in the right coating system for protection because they know the savings that will result.

A White Paper with full details about protecting rudders and running gear from cavitation damage is available in the Publications/Papers section of [www.shiphullperformance.org](http://www.shiphullperformance.org) for free download. ■

**ECOSHIELD<sup>®</sup>**  
**ULTIMATE PROTECTION**



## The only hull performance system that gives your engine a break

**E**cospeed provides your vessel with long-term protection and dramatically improves the ship's performance.

An impermeable and extremely tough coating is combined with an underwater cleaning system. This keeps the hull roughness at an optimum level and results in a

major saving in fuel.

Ecospeed gives a very thorough and lasting defense against cavitation and corrosion damage for a ship hull's entire service life. The coating comes with a ten year guarantee. No repaint will be needed during future drydockings.

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# Save millions in drydock expenses and off-hire time



*Hull of cruise ship after 5 years with Ecospeed coating with no replacement or major repair. This is the state of the hull when the ship came out of the water, without any cleaning or touch-up in drydock.*

**W**hen your hull coating never needs replacing or major repair, you can save a lot of money in drydock fees, off-hire time, materials and labor.

becomes rougher until it's no longer worth trying to patch it up. And it costs you a fortune in fuel to compensate for the additional hull friction.

Imagine coming into drydock after 3 or 5 years and finding that your hull coating only requires a few minor touch-ups and doesn't even need to be washed off.

Most hull topcoats are designed to be replaced once or twice every five years. The full hull coating scheme has to be fully replaced every 10 - 15 years down to bare steel. Over that time period, the coating degrades and

Imagine a coating that's guaranteed for 10 years and is expected to last 25 without replacement or major repair. A coating that gets smoother over time, not rougher.

Just think how much money you will save.

Call us today for a quote to convert your hull to Ecospeed or start off right, with Ecospeed, on a new build.

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