ShipBuilding industry

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MYA II RECEIVES ECOSPEED HULL PROTECTION

Wadden Sea Researcher

The new build research vessel MYA II during her first tour.

Photo courtesy of Florian Lange, Alfred-Wegener-Institut

DESPITE HER SMALL SIZE, THE MYA II PACKS AN ENVIRONMENTALLY FRIENDLY punch – from the latest scientific research equipment to efficient emission control and a new Ecospeed hull coating. SBI carried out its own research into this new build vessel built by Fassmer shipyard.

In August this year, coastal researchers at the Alfred Wegener Institute (AWI), Helmholtz Centre for Polar and Marine Research took delivery of their new build research vessel, the Mya II. She will undertake research from the Institute's Wadden Sea Station on the island of Sylt, Germany. However, before her launch, the Mya II's underwater hull was given Ecospeed protection. Mya II is the fifth research vessel to be built at the Fassmer shipyard. The design is based on Fassmer's vessel type BL21, with a length of 21.7 m, 1.50m draught, a moulded beam of 6 m and a maximum speed of 10 knots. As well as research equipment, echosounders, a multi-functional laboratory with direct access to work deck and wheelhouse and a moonpool, she features a stern A-frame combined with an electrical dual winch and a knuckle boom deck crane.

Robust Design

In a brief speech, AWI Director Professor Dr Karin Lochte emphasised the importance of the ship for research into the Wadden Sea, which is a world heritage site. She also referred to the benefits for young scientists who, in future, will use the Mya II as a marine research platform on the doorstep. "Whilst this is our smallest research vessel, it is extremely modern and ideally equipped for

coastal research," said Prof Dr Lochte, impressed by the technology on board which is reminiscent of the equipment on large research vessels. Due to her robust design and flat hull, the Mya II can easily be operated in the shallow waters of the Wadden Sea while offering optimal working conditions for the crew and scientists on board. The head of AWI logistics, Dr Uwe Nixdorf, underlined the positive cooperation with the shipyard and suppliers which, bearing in mind the demanding requests of scientists, was impressive. The order to build a research ship for up to twelve researchers was supplemented by wishes such as: shallow draught, possibility of falling dry in the mud flats, various winches, plumb lines, measuring instruments, a crane and a speed of 10 knots. After all, the new ship ought to be able to outperform her predecessor, the now 35 year-old Mya.

Mya II was awarded the 'Blue Angel' eco label for its environmentally friendly design.

Blauer Engel

The interaction of flora and fauna in the food web is one of the key biological issues examined at the AWI Wadden Sea Station. The station provides them with the basis for a responsible use of the Wadden Sea, which is a UNESCO world heritage site. As well as a green passport, Mya II was also awarded the 'Blue Angel' eco label for its environmentally friendly design.

"We placed great value on environmentally friendly technology when building the Mya II in order to minimise disturbance to the Wadden Sea caused by research activities," says Prof Dr Lochte. The new ship has a particulate filter as well as a waste gas purification system, which removes nitrogen oxides (NOx) from engine exhaust fumes. As a result, the NOx emissions of the Mya II are around 85 percent below the current limit. »

Application of first layer of Ecospeed.

Photo courtesy of Hydrex

The topside of the research vessel MYA II during construction at Fassmer shipyard.

Photo courtesy of Hydrex

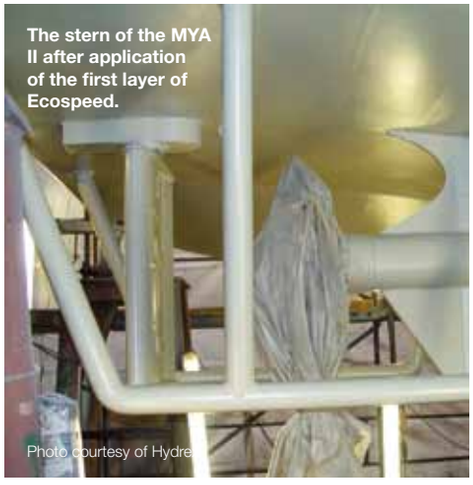
The stern of the MYA II after application of the first layer of Ecospeed.

Photo courtesy of Hydrex


An Ecospeed inspector is present to guarantee the quality of the application.

Photo courtesy of Hydrex

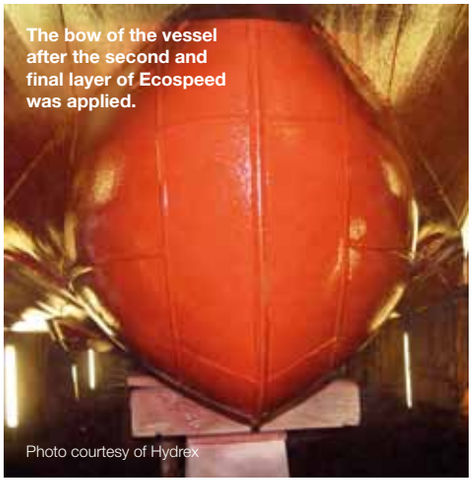
The bow of the vessel after the second and final layer of Ecospeed was applied.

Photo courtesy of Hydrex

Toxic Free

Ecospeed ties in perfectly with the ecological ideas behind the design of the research vessel. The coating offers a TBT-free, copper-free, biocide-free and silicone oil free solution for the protection of the underwater hull. The Ecospeed hull protection and performance system is today's best available technology for reduction of fuel consumption, greenhouse gas and other emissions through hull hydrodynamics and fouling control. In 2008, stringent tests were carried out within the framework of an EU LIFE demonstration project to provide scientific data and to authenticate the non-toxicity of the Ecospeed hull performance technology. This research proved that the coating is 100 percent free of toxic substances and that there is no negative effect on the water quality or the marine environment at any point of its application or use. Moreover, the massive amounts of organic toxins and zinc anode emission associated with conventional hull coating systems are reduced to almost zero.

Non-Indigenous Hitchhikers

Over the last several years, there have been concerns that non-indigenous species (NIS) are transported by fouled hulls just as much or even more than in ballast water. Once a hull becomes heavily fouled, a situation occurs where there is an increased risk of transporting NIS that needs to be remedied by defouling activities, either by out-of-water removal or by underwater cleaning. In this respect, underwater cleaning has come under some scrutiny out of fear that viable NIS are released and spread, rather than contained and disposed of by the operation. Several ports and countries have banned underwater cleaning out of concerns about pulse release of biocides and/or an increased risk of transferring NIS. Taking into account the delicate environment Mya II will be sailing in, this is an especially important issue for the researchers.

Environmental Responsibility

The underwater cleaning of Ecospeed can be regarded as a safe measure that prevents, rather than remedies, the spread of NIS. Firstly, Ecospeed can be cleaned on a regular basis without damaging the coating's surface. The cleaning interval is optimised to minimise fouling and the associated increase in fuel consumption. In other words, regular cleaning prevents macrofouling from building up and at the same time presents an opportunity to inspect so-called niche areas. Secondly, Ecospeed is a very durable coating that withstands abrasive cleaning for which very effective specialised tools have been developed. As a result, many of the fouling organisms will be destroyed during cleaning. As long as only micro fouling or locally acquired macro fouling is cleaned off the hull and niche areas, the risk of translocation of NIS via hull fouling is minimal. Standard use of Ecospeed is the key to resolving the hull-borne NIS issue.

The use of an environmentally safe underwater ship hull coating was essential in fulfilling the ecological goals of the Alfred Wegener Institute. During research in the Wadden Sea it needs to be ensured that the ecosystem being studied is not disturbed. Ecospeed offers a perfect lasting solution for any individual or company that takes its environmental responsibility seriously.

i. www.hydrex.be