Royal Navy Ice Patrol Ship coated with Ecospeed

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At the end of May, the Royal Navy Ice Patrol Ship HMS *Protector* was coated with Ecospeed at the A&P Tyne Ltd. Shipyard in Tyne and Wear, United Kingdom. The vessel is deployed on operations for 330 days a year, mostly in the Antarctic region. It is therefore essential that her underwater hull is protected against the harsh icy conditions she is faced with.

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 demonstrates excellent attachment to the hull and successful resistance to extremely icy conditions. Ecospeed has proven its ability to withstand the harshest winter conditions on numerous occasions. For over seven years a number of vessels coated with Ecospeed have been sailing as far as both the North and the South Pole. These vessels' underwater hulls frequently have to endure the impact of large pieces of floating dry ice. Despite this none of these vessels have required more than just a few touchups during their drydock visits.

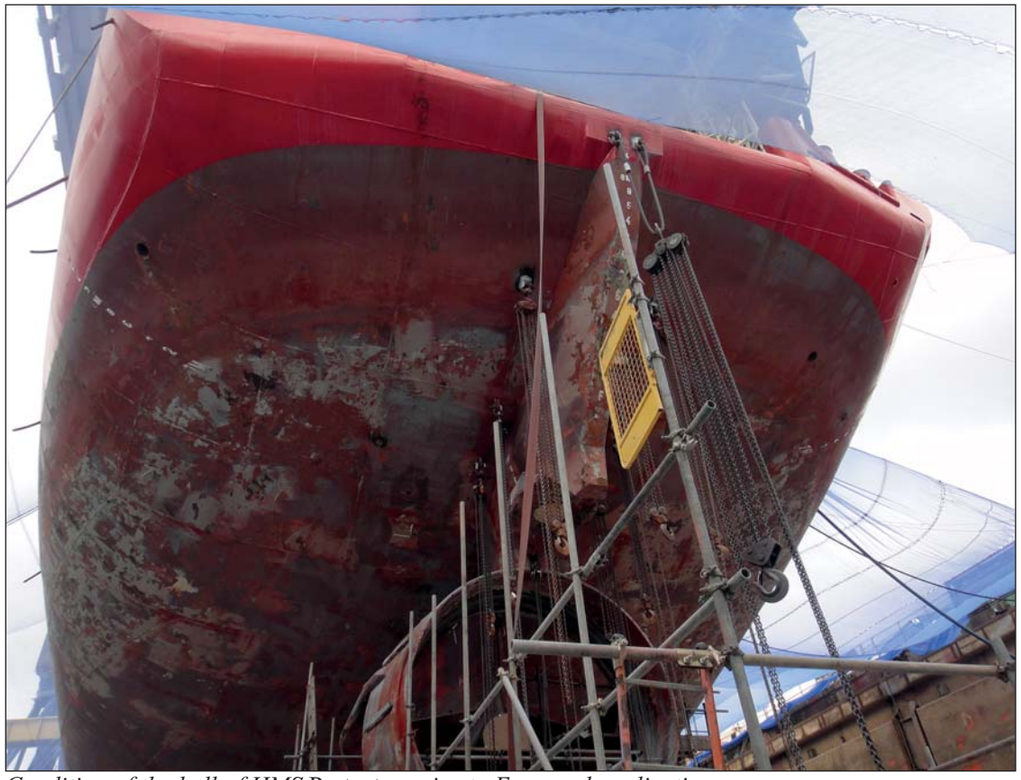
HMS *Protector*

HMS *Protector* is a Royal Navy Ice Patrol Ship built in Norway in 2001. The vessel was designed for long Antarctic expeditions and for supporting subsea work. As MV *Polarbjørn* (Norwegian for polar bear) she operated under charter as a polar research icebreaker and a subsea support vessel. In 2011 the vessel was chartered by the British Ministry of Defence as a temporary replacement for the ice patrol ship, HMS *Endurance* before being purchased in September 2013.

Prior to the Royal Navy charter, she underwent a ten day refit. The helicopter deck which was originally located above her bridge, was repositioned over the stern. Also a new echo-sounder for survey work was installed. She was also modified to allow the carriage of the ancillary vessels and vehicles (survey boats, all-terrain vehicles) used in support of the British Antarctic Survey. HMS *Protector* is capable of positioning to pinpoint accuracy in winds of up to 80 knots and is fitted with an impressive array of specialist equipment.

On the 2nd December 2013, HMS Protector *conducted a base inspection on the Ukrainian Vernadsky Research Base. The base was renamed Faraday Station in August 1977 in honour of British scientist Michael Faraday until Ukraine took over the operation of the base in February 1996. Source: http://www.defenceimagery.mod.uk.*

She is currently deployed on Antarctic patrol to provide a UK sovereign presence in the British Antarctic Territory. The purpose of this operation is to reinforce the region's security and good governance. A further goal is to meet the UK treaty obligations and exercise rights under the Antarctic Treaty System through inspections, hydrographic charting and support to scientific research.



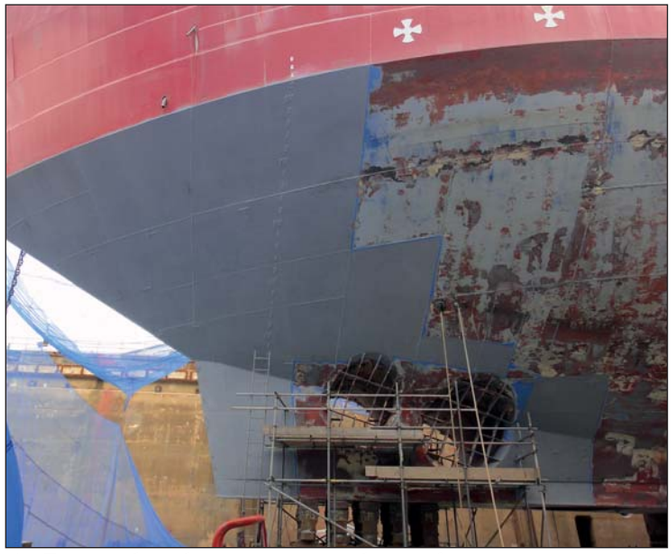
Condition of the hull of HMS Protector *prior to Ecospeed application.*

Who protects the *Protector*?

The Ice Patrol Ship is a symbol of the Royal Navy's global reach, operational flexibility and the Service's ability to sustain operations wherever and whenever that presence is required. For a vessel like this it is a must to have a coating system that does not need to be replaced regularly and protects the steel against the impact of the ice.

Experience has shown that Ecospeed stays on the hull longer and resists the ice far better than the most generally used specialized ice coatings. The glassflake reinforced coating uses a different resin which means that it remains bonded to the ship's plates even as they flex and bend under ice pressure and impact. The coating is extremely tough and resilient. It stays on the ship much longer than other ice coatings and holds up much better, providing smooth protection for the hull for years.

Panoramic image of HMS Protector*, in the vast and beautiful landscape of Antarctica.*
Source: http://www.defenceimagery.mod.uk.



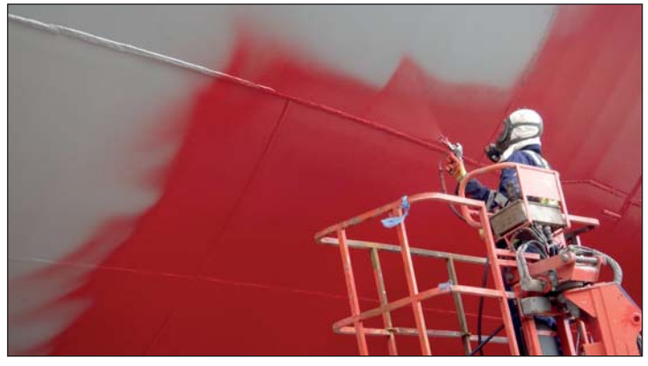
An Ecospeed application starts with a surface preparation.

Application of first layer of Ecospeed. The coating is applied in only two layers.

Ecospeed has received the Lloyd's Register certificate that recognizes the coating as an abrasion resistant ice coating. This allows owners of vessels intending to navigate in ice conditions to reduce the scantlings of the ice belt, the area on the bow just above the waterline that is most prone to mechanical damage from sailing through ice, if this area is coated with Ecospeed.

Keeping the environment safe

Soft coatings such as biocidal antifouling coatings and foul-release coatings easily scrape off on the ice, depositing toxic substances in what are often particularly delicate marine environments. They are quite unsuitable to even occasional sailing in ice-covered waters. Ecospeed is tested and proven to



Application of second layer of Ecospeed. No repaints will be needed during future drydockings.

After Ecospeed application the hull of the vessel is protected against even the harsh icy condition of the Antarctic region.

be completely non-toxic and safe in any marine environment, including icy waters. This is another important benefit for a vessel like the HMS *Protector* that spends most of her time sailing in the sensitive waters of the Antarctic region.

Summary

Due to its unique composition, Ecospeed offers the best protection available for underwater hulls of icebreakers and ice-going vessels. The coating system also provides the best hull performance and is the easiest ice-going paint to apply and maintain. ■

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SHIP HULL PERFORMANCE TECHNOLOGY

For more information about Ecospeed please contact us at one of the offices below

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